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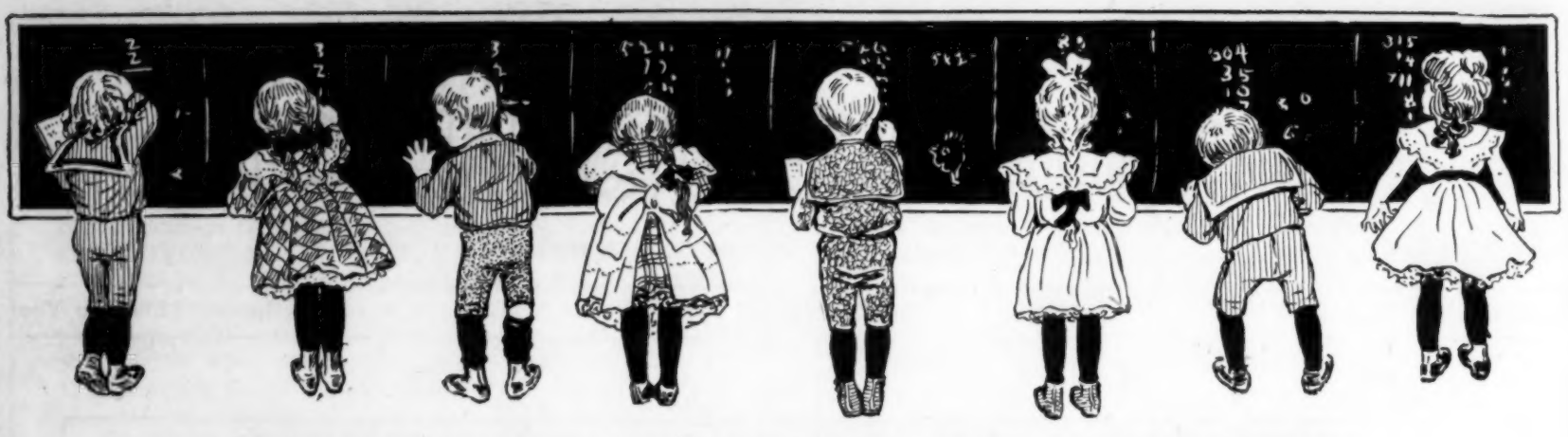
AN OPPORTUNITY FOR CONSISTENCY!



HELPING YOUNG TEACHERS

H. C. Krebs, County Superintendent, Plainfield, N. J.

The State Board of Education of New Jersey, in a decision announced on December 1, 1917, in regard to school supervision, made this pertinent statement: "The duty of a supervising principal is primarily the supervision of instruction in the classroom. His other duties are of minor importance . . ."

This opinion is likely to meet the approval of all progressive educators. The work that counts is that of personal visitation of the teacher and classroom. We are too much occupied in office routine to give adequate time to visitation. It is said that the late Superintendent C. F. Carroll of Rochester, N. Y., seldom went to his office in the morning, but called at one of his schools at nine o'clock and spent three hours visiting the teachers. He purposely avoided his office, knowing that the inevitable demands awaiting him there would interfere with his classroom supervision.

If this is a good plan for the superintendent of a large city, it is a good plan in a smaller community, where the office demands are relatively few.

If a superintendent or supervising principal is a good executive, there is no reason why he can not find at least three hours per day for classroom visitation. He should have a fixed office time before and after the school sessions; but only the most imperative matters should keep him from observing his visiting hours. He can a good deal better forego his office hours than his visiting hours.

The bearing of the foregoing on the subject of this article is obvious. Young teachers need the help that can come only from frequent visitation and consultation with the supervisor. Beginning teachers are usually in a state of perplexity because of the strange and responsible situation in which they are placed. Many of them have never before had any responsibility to bear except that of a student. Now they are put in charge of forty pupils, with a course of study and a program to follow, and with forty dispositions to control and direct. To leave young teachers in such a situation without help is positively cruel to them and to their pupils. What they need is the support of the supervisor's larger knowledge and experience.

Recently a state official visited a young teacher in a certain town. He noticed on her desk some of the papers in geography handed in by pupils the preceding day. Every mistake had been carefully marked by a blue pencil. Some of the poorer papers were a medley of blue marks. The visitor called the teacher's attention to these papers, and asked her whether the errors noted were followed up by later instruction. Only a few, was the reply, because there was no time to correct all. Then the visitor pointed out that errors not followed up would not be corrected at all, and that the labor she had expended in marking these errors was in vain. He also suggested that a large amount of blue pencilling, even if deserved, is very discouraging to pupils. He urged that the working power of a class, as of an army, depends on its morale, and that this morale may be secured positively by encouragement, and maintained negatively by avoiding all procedure that will cause discouragement. He also told her that the misspelling of difficult words in geography may be avoided by having them written at the board before the test begins. After half an hour's observation the visitor, about to leave, said to the teacher: "During all this time I saw you do only one thing that was contrary to the principle of maintaining good morale. You said to your pupils, 'The first section may take seats on this side. Be quick—you are wasting time.' If you had said, 'The first section may take seats on this side. Quickly, please,' you would have encouraged them. But when, you said, 'You are wasting time,' the element of discouragement was introduced. Keep that out. Have you ever had the experience of never being able to please your teacher—that no matter how well you did, there was always something with which she found fault? And did you ever say to yourself, 'Am I never able to please you no matter how hard I try or how well I do?' If so, you will know how your pupils feel under the same circumstances."

The young teacher gained much of pedagogic insight in the brief suggestions made by the official. The pity is that she had been teaching months without advice along this line from any one. If supervision is to be worth anything, the teachers must be helped. Here was a trained teacher of very good personality, and good methods, thoroly in earnest, but simply lacking in a knowledge of practical psychology. All she needed to improve her work was the constructive criticism of a supervisor.

A teacher wrote to her supervising principal as follows: "As to your visits to my room, I hardly know what to say. You have not seen a great deal of my work as you have made (February 1) only four or five visits. You have never said or written a word about my work. For this reason I am left with a feeling of unrest as to whether you think I am making good or not. Will you not criticise me one way or the other?"

Another teacher wrote to the same supervising principal: "You would help me more in my classes if you would tell me more fully than you do whether my methods, manner, etc., are satisfactory or otherwise; in fact, say just what you think of me as a teacher. As it is your visits always make me nervous."

While the two teachers just quoted may not both have been young teachers, they nevertheless speak for young teachers. What they need and want is help. They are aware of their insufficiency. They are uncertain as to the correctness of their methods and management. They are anxious to do good work, they want to secure the favorable opinion of their superior officer, and he in many cases fails to give them any opinion at all. Hence they go on in a state of uncertainty, with many misgivings and heartaches—surely not a mental state favorable to the best work.

A young teacher should be treated on the same principle as a young horse—with gentleness. The supervisor should be in close touch with her work through his personal observation. He should have an occasional conference with her, and many incidental conversations. There should be a minimum of fault finding, and a maximum of suggestion and instruction. Especially should he emphasize principles, allowing her to work out the details. For instance, he may call her attention to the principle that pupils should see as few incorrect forms as possible. Let him explain this principle, and suggest an application, for example, in spelling. Then the teacher may be trusted to keep this principle in mind in connection with other subjects.

In management, the supervisor may suggest the principle that there should be few rules, if any, and that no rule should be made until there is occasion therefor. This may save a young teacher from the grievous error of losing the good will of her pupils thru an excess of rules and regulations.

The success of a young teacher depends very largely on the kind of supervision she receives. If the supervisor visits her frequently enough to have knowledge of her work, and shows a real interest in her progress, giving her suggestions and advice wherever he can, and showing sympathy with her efforts, his work will be of great value to her and the pupils. But if he is an "office principal," out of touch with classroom proceedings, he is likely to have little sympathy with the teacher's problems, and little tact in presenting suggestions.

Depend on it, supervisors, teachers know whether or not you have an adequate knowledge of their work. They can readily tell whether any criticisms you make are founded on facts or are the products of your imagination. You cannot maintain their respect if they feel that you are not doing real supervision. It is their duty to teach the classes, and your duty to help them do it efficiently. You cannot cover this obligation by any plea of work. Teachers know that you are paid to supervise them, and they cannot think highly of you if you fail in this fundamental purpose of your position.

Should School Expenditures Be Limited?

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The question of limiting school expenditures has probably not occurred to many school officials; most of them usually have all that they can do to get money enough for what seem to them to be the ordinary necessities of good school administration.

However, such a question has come to be a very live issue in California, and it is not altogether unlikely that similar circumstances may force it upon the attention of school administrators everywhere. We are informed by some who attended the meeting of the National Tax Association this spring that the prevailing sentiment of that gathering was not essentially different from that of California tax authorities. The readers of the *School Board Journal* will therefore probably be interested in a brief account of the issue that has developed under the writer's personal observation, and in a discussion of the most important principles involved.

Warning to School Officials.

The following timely note of warning was recently sounded by a California editor, and it has since been copied by newspapers in all sections of the state. It is worthy of thoughtful perusal by all school officials:

"There is probably no single department of governmental activity in which greater savings can be made thru improved organization and more efficient administration than the school department. The cost of education is mounting with such extreme rapidity as to cause great disquiet, not only to taxpayers but to some educators themselves, and *unless intelligent and prompt action is taken by the constituted school authorities to improve organization and administrative methods it is possible that under the stress of war and post-war conditions the generous and open-handed financial support now afforded to the schools may be very materially curtailed, or that the burden of expense will become so great that wholly unqualified persons will attempt to remedy conditions that should have been remedied by the constituted school authorities."*[1]

A warning like this ought to make even the most pedagogically inclined superintendent realize that tax rates and expenses are not the least important of the things he is supposed to look after.

Limit Law Starts Trouble.

To turn now to the incident which has started so much discussion in California: Realizing the growth in public expenditures of all kinds, the legislature of 1915 created a State Tax Commission whose function was to study the situation and to make recommendations. Among numerous other things, the commission found such facts as the following:

Increases from 1911 to 1916 Inclusive.

Assessed valuation of state	37%
Governmental payments:	
State	100%
Counties, excluding San Francisco*	106%
Cities, including San Francisco	49%
Total payments	79%
Expenditures for common schools†	48%
Total payments for education	63%
Outstanding bonded indebtedness:	
State	481%
Counties, excluding San Francisco	143%
Districts, mostly school	153%
Cities, including San Francisco	107%
Total indebtedness	139%

*San Francisco is a consolidated "city and county."

†Figures of the U. S. Commissioner of Education show that the corresponding expenditures of all states increased 43% in the given period.

[1]Taxpayers' Association of California, "City and County Consolidation for Los Angeles," page 70. Publication office, 522 American Bank Bldg., Los Angeles, Cal.

One of the commission's recommendations called for the adoption of a new type of tax limit law that would limit expenditures to necessary and legitimate increases.[2] The result was the passage of a law, popularly known as Assembly Bill 1013, which provided that the aggregate of all taxes levied by the county supervisors (this includes both county and district taxes of all kinds) should not in any year exceed by more than five per cent the actual amount of money levied for the preceding year. Provision was also made for increases beyond five per cent on appeal to a "state Board of authorization" and for a referendum vote of the people in case sufficient number of voters did not agree with the state board of authorization. The budget was made the basis for all levies, and the entire county budget, together with the tax-rates which the supervisors proposed to levy, was required to be a matter of public record at least sixty days before the tax-levying time.

Thus the taxpayer was assured that the total amount of money he would have to pay would not increase unreasonably fast, and the general public was given an opportunity to see what the taxes were levied for, and to have something to say about budgets and tax-rates before they were finally agreed upon. In California, at least, it has hitherto not been uncommon for the tax rate to be fixed in executive session on the evening of the last day allowed by law, and if the public ever had anything to say it was after the rates had been fixed and when it was too late to change them.

If Assembly Bill 1013 had stopped at this point, it might not have caused very much trouble, but in order to prevent any single department from getting too large a proportion of the total county taxes and in order to permit the supervisors to reduce tax levies to what the budgets showed to be actual necessities, all old maximum rate limits were retained and all old minimum requirements were abolished. The latter provision was probably aimed at the roads, for each county supervisor had previously been guaranteed a road fund which had to be spent in his district regardless of whether it was needed or not. Unfortunately, however, the schools also were affected, since the county supervisors were no longer compelled to levy the minimum amounts that had always been required for the support of both elementary and high schools, and experience had shown that in the past the supervisors of several counties had given the schools no more than they had to, and in some cases even less.

The abolition of minimum requirements therefore, brought a storm of protest from the school people of the state, and they invoked the referendum with phenomenal success, so that the measure is now held up, pending the action of the voters at the November election.[3] However, the referendum and the law together have had a very wholesome effect, for they have drawn the attention of the taxpayers to the needs of the schools and have shown progressive educational leaders the importance of heeding the warning issued above.

As a considerable number of states (notably Arizona, New Mexico, Colorado, Oregon, Ohio, and Wisconsin), have already adopted laws limiting expenditures rather than rates of taxation, and as many other states are considering some such laws, a discussion of the general principles involved may not be out of place in a publication of wide circulation like the *School Board Journal*.

Should Schools Be Included?

The first question to be decided is whether or not schools ought to be included in a general tax limit law. Should any good thing be limited? Isn't education more important now than ever before? Why not encourage rather than limit it?

In answer to these questions we will confess that we believe that even good things like the schools should be properly limited. Presumably all public expenditures are for the general welfare and it is conceivable that the least important school expenses might deserve less consideration than the most important requirements of other departments.

We will also admit that education was never so important as at present, but it is equally true that it was never so hard to support the schools as it has been since war prices and federal taxes have swept the country. Both educationally and financially, therefore, it is imperative that we limit not only school expenditures but school activities to those things which are most necessary and most important.

But there are other reasons why school expenses should be carefully limited and supervised. *In the first place, the cost of education all over the country is increasing at an alarming rate.* For example, in California since 1900 the cost of maintenance alone, not to mention buildings or other improvements, has increased twice as fast as the population and 50 per cent faster than the assessed valuation of the state. At this same rate the cost of conducting the schools will, by 1930, be as great as the combined cost of conducting the entire state government and that of all of the counties in 1916, schools included. And the worst of it is that this is only an *average* condition. Think of what the condition must be in some communities! Such increases may be largely legitimate, but the taxpayer wants to know when they are going to stop.

In the second place, expenditures for schools are not properly safeguarded. In California, forty per cent of the total tax levy of the average county goes for school purposes, not to mention the generous appropriations by the state. These expenditures made a total last year of $33,250,731.28, which indicates that the business of educating the state's children is no small enterprise. But instead of administering these funds as they would ordinarily be administered by an organization of such importance, the mangement is turned over, practically without restriction, to 12,000 school trustees, whose only necessary qualification is to get votes, and many of whom are ignorant or even illiterate foreigners.

Tax Limitation Not New.

Tax limitation is not new; it is only the idea of really limiting taxes that is new. Practically all states have statutory limits on the rate of taxation that may be levied for local purposes but such limits are usually ineffective.

For example, in California it is unlawful for any school district to raise more than thirty

[2]See Report of California State Tax Commission, 1917, page 96.

[3]Since this article was prepared, the California Teachers' Association and the Taxpayers' Association of California, working together, have caused an initiative measure to be placed upon the ballot along with the referendum. The initiative is practically the same as the original bill (A. B. 1013) except that school taxes are separated from other taxes, school levies are limited to an increase of five per cent over the cost per pupil of the preceding year, district levies are limited separately from county levies, and the old minimum requirements have been retained. Bonds are not included in reckoning any of the tax limits.

cents on the $100 of assessed valuation for the maintenance of its elementary schools. However, the state tax commission found that the ratio of assessed value to true value in the several counties ranged all the way from 21 per cent to 66 per cent. In other words, the local tax officials can and actually do make this state maximum vary at will from 6.3 cents to 19.8 cents on the $100 of real wealth.

Old Limits Faulty.

But the ineffectiveness of these old limits is not their only fault; they sometimes work great hardship or entail needless expense. For example, the Oakland school district is located in Alameda county. Its property is assessed by the county assessor according to the needs of the county jails, roads, hospitals, etc. But the 30 cent maximum tax rate for Oakland's schools is also based on this same valuation. Now between the years 1910 and 1917 the following changes took place: Oakland's school enrollment increased 43.3 per cent and, on account of salary increases and other improvements, the cost of conducting the schools increased 77.1 per cent. In the meantime, the assessed valuation increased only 17.9 per cent and the tax rate for county purposes other than schools actually decreased 31.3 per cent.

Now where is the logic in measuring Oakland's school taxes neither by the ability of the community to pay, nor by the needs of the schools, but by the demands of the county jails and hospitals? The result of this policy is that Oakland has already reached the maximum and the school department is still growing. But on the other hand, over 80 per cent of 2,909 districts recently investigated had no district tax whatever last year.

Such injustice in the ordinary rate limits has made it necessary for cities to separately assess property already assessed by the county. This and the separate collection of taxes cost the State of California a useless burden of approximately $300,000.00 last year.

Even Per Capita Limits Bad.

In a few cases California has substituted uniform per capita limits for rate limits. Thus some of the school levies are based upon average daily attendance. It must be admitted that such limits are more effective and more representative of the actual needs of the situation than flexible limits based on the needs of some other branch of government, but even uniform per capita limits are not just and equitable.

For example, in 1916-17 the cost of elementary schools in California counties varied from $37.99 per pupil in Tuolumne County to $98.57 per pupil in Alpine County, and yet the law privides each with the same county tax per pupil. And even if we consider only cities, the cost per pupil for a stable item like teachers' salaries varied from $26.06 to $59.40. It is therefore quite safe to say that *school expenditures do not vary in proportion to the number of pupils educated.*

Other Limits Proposed.

Since the old rate limits and the uniform per capital limits both seem to be faulty, let us consider briefly some of the new limits that have been proposed.

1. *Arbitrary limitation to "necessary" expenses.* The simplest way to limit expenses effectively and at the same time according to the needs of the case would be to give some independent and impartial authority power to eliminate all items from a given budget which were deemed "unnecessary." Most of the new tax limit laws give a state board of authorization such power only after budgets have exceeded a certain limit of increase over the levies of the preceding year.

Such a limit is really not new except in that it creates a single board of authorization for the entire state. Even now local school authorities very commonly have to submit their requests to county or other tax-leving bodies, and the latter not infrequently have unlimited power to reduce the budget submitted.

The injustice of such a limit lies in the fact that we have built up no standard body of principles and precedents such as govern the courts in their procedure, and the result is that the schools are not guaranteed a fair hearing or a decision based on the evidence submitted.

2. *Uniform or arbitrary percentage limitation.* A second form of limitation, which is generally found in the more recent tax limit laws, is a percentage limitation. By this type, levies are limited to a certain percentage of increase over the corresponding levies of the preceding year. Thus far it has been customary to employ a single percentage limit for all levies thruout the state, but it would be easy to classify governmental units or departments and to apply the same principles, by providing separate percentage limits for each class.

A combination of this and the preceding type makes a good limit law to start with as it is more effective than any rate limit and it is easy to operate. Our principal objection to it is that it is so unscientific. At best it is only a fair guarantee against undue increases in the total taxes. It assumes that the ordinary expenses of all governmental units ought to increase in uniform ratio and that the ratio named in the law is the proper one. Both of these assumptions are false. It also takes no account of the distribution of expenses and hence does not check either extravagance or waste. In fact it might even encourage waste, for taxing units needing less than the limit would levy all that the law allowed in order not to be hampered the following year. It guarantees no protection whatever to schools or other departments, unless they are separately limited.

3. *Average growth limit.* In order to guard against the false assumptions and the injustice of the preceding limit, it is suggested that each governmental unit be limited by its own growth rate over a period of years. For example, if expenditures in one county have averaged an eighteen per cent increase each year for the past ten years and those in another county have averaged only a two per cent increase, the percentage limits for the present year for those counties would be respectively eighteen per cent and two per cent. Both would be treated fairly and both would have to figure carefully in order to keep within the limit.

The principal criticism that might be urged against this limit is that it assumes that the average of past needs is a fair measure of the needs of the present and the future. But in reply it might be argued that when present needs do exceed those of the past, then there exists a real emergency such as could be clearly defined and set before the board of authorization or the people. Thus, the population may have increased abnormally, or it may be necessary to raise salaries.

4. *Variable per capita[1] limit.* The California state board of education at its meeting in January, 1918, adopted a resolution favoring "an annual increase in the amount of school funds that will be proportionate to the increase in average daily attendance." This would mean that the cost per capita in the past in a given administrative unit should be the maximum cost per capita in the future.

Such a limit may have some administrative advantages over the preceding one, but it has the same disadvantages. A limit like this would prevent increases in salaries, additions to the curriculum, and all other improvements except as they could be shown to be "emergencies."

5. *Graduated combination of percentages and growth limits.* Since either the growth limit or the variable per capita limit (which is really a growth limit based on attendance) seem to satisfy most of the requirements of a good limit law with the exception of providing for unusual growth or improvements, the writer would propose that the principal disadvantage of the growth limit be eradicated by introducing the arbitrary percentage of increase. Thus the growth rate rather than the levy itself would be permitted to increase by a certain percentage. For example, if the growth rate were twenty per cent and five per cent increase were permitted, the levy might increase twenty-one per cent in any one year without an appeal on the basis of an emergency.

Obviously neither all communities nor all departments of government would need the same margin for improvement. Those making the most rapid growth or development would need more than those changing more slowly; some might not need any margin. The marginal percentage limit should therefore be graduated accordingly.

Ideal Limits.

While the best of the foregoing limits are equitable and effective and based on local conditions, still they all fall short of the writer's ideal in that none of them eliminates waste or curbs extravagance except as such waste or extravagance are reflected in the total expenses. Furthermore, while they provide for interference with local expenses by arbitrary state law, they in no case provide for intelligent and helpful state supervision. Perhaps before arriving at our ideal solution it may be necessary to begin with some of the other forms of limitation mentioned, but in the writer's opinion the following is the sort of a limit law for which school executives should work as an ultimate goal.

1. *Both upper and lower limits needed.* The state's educational interests are hardly secondary in importance to its financial interests. Hence there should be lower limits of taxation to protect the schools as well as upper limits to protect the taxpayers.

2. *Base school taxes on a properly itemized budget.* Writers on school administration and directors of school surveys not infrequently call attention to the fact that school executives are very unbusinesslike and careless in their manner of asking for funds to support the schools. The California state board of authorization found that, even tho the budgets were required by law, the estimates of 52 counties were accompanied by only eight school budgets, and examination revealed the fact that only one of these contained even lump-sum totals for all of the several departments for which county superintendents are responsible. Budgets may necessitate a little work on the part of school officials, but they are a more accurate measure of actual needs than tax rates, or attendance of pupils, or any other single and arbitrary figures. It is unthinkable that progressive school men should continue to neglect this important phase of their work.

3. *Responsibility for expenditures.* The duty to make the budget should carry with it responsibility for expenditures, including responsibility for waste or extravagance. In California at least, it is practically impossible to place responsibility for school funds.

4. *Classify schools according to needs.* In administering any limit, every departmental unit that is under separate management should be separately limited. Applied to education, this means that schools should be governed by a

[1]We call this a "variable per capita limit" to distinguish it from the old type of "uniform per capita" whose faults have already been mentioned.

separate limit from jails and roads, and that each school district should have its own limits based on its own conditions. Such a provision can be far more effectively applied than a limit on the aggregate expenses of a county, and besides it is fairer to each department. Furthermore, responsibility for expenses is impossible where the budgets of numerous independent boards are thrown together into a common levy with a limit on the total only. However, this is not saying that a proper limit should not also be placed on the aggregate of all of the taxes which any single taxpayer will have to pay.

5. *Separate bonds and improvements from current expenses.* The folly of trying to place an equitable limit on the aggregate of all school expenditures will be obvious to any one familiar with school accounting. Just for what they may be worth, the writer throws out the following suggestions:

(a) *Limits on bonds.* The purpose of such limits is to protect public credit. However, a district's credit does not depend upon the ratio of its debt to its assessed value but upon whether or not investors will buy. If interest rates and terms of bonds were more strictly limited, there would be less danger of excessive indebtedness in proportion to ability to pay.

(b) *Limits on improvements.* The extravagance and waste which results from spending money on land, buildings, and equipment generally arises from ignorance, poor management, or excessive prices. If prescribed standards as to price and amount were set by the proper authorities, and if the construction and furnishing of school buildings were properly supervised, much better results would be obtained than by the present rate limits.

6. *Expenses limited by state standards.* This brings us to the most important limit of all—the limit on current expenses. For practical purposes, it might be best to begin by using the variable per capita limit mentioned above as a minimum and the graduated combination of percentage and growth limits as a maximum.

Ultimately, however, in order to eliminate waste and extravagance from school expenses, they should be made to fall between two sets of standards which would represent respectively the minimum which the state considers essential and the maximum beyond which the state would consider any expenditures as extravagant. Local tax-levying bodies might use their own discretion between these limits, but they could not go below the minimum and could only exceed the maximum by appealing to the voters to support what the state had already labelled "extravagant." Standards should be defined by the proper executive officers in the state education department, but the standards to be selected and the specific limits to be set should be regulated in accordance with legislative authority.

Examples of minimum requirements might be standards as to the length of term, the nature of instruction, the qualifications of teachers, the nature and amount of supervision, the salaries paid, etc. Maximum standards might include the cost per pupil for instruction in a given course, the cost per pupil for supplies, the price per unit for standard supplies and equipment, the maximum contribution by the state for the encouragement of local effort, etc. Budgets would be made in terms of these standards. Of course other limits would prevail until a sufficient number of standards had been worked out, and then the new limits might control entirely.

Carrying Out the Ideal.

Such an ideal is probably a long way off, but that is no sign that it is not worth striving for. The several states in 1916 spent $640,717,053 on their common schools alone. This is an average per state of close to $13,500,000. Any corporation doing that much annual business would be

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standardized from top to bottom. Business men realize that this is the only way they can compete with other corporations who do business in that way. And sooner or later, unless the school men heed the warning at the beginning of this article, some of these same business men are going to begin to ask why the schools aren't efficiently managed. School men should take the initiative in such changes rather than wait until after the laws have been put on the statute books by non-professional influence.

PRESIDENT WILSON ON KEEPING UP THE SCHOOLS

Efficiency Should Be Maintained Despite War Burden, He Says in Letter.

President Wilson urges generous support for schools of all grades during war time. In a letter to Secretary Lane approving the Bureau of Education's plan for an educational campaign this summer and fall, he says:

"I am pleased to know that despite the unusual burdens imposed upon our people by the war they have maintained their schools and other agencies of education so nearly at their normal efficiency. That this should be continued thruout the war and that, in so far as the draft law will permit, there should be no falling off in attendance in elementary schools, high schools, or colleges is a matter of the very greatest importance, affecting both our strength in war and our national welfare and efficiency when the war is over. So long as the war continues there will be constant need of very large numbers of men and women of the highest and most thoro training for war service in many lines. After the war there will be urgent need not only for trained leadership in all lines of industrial, commercial, social, and civic life, but for a very high average of intelligence and preparation on the part of all the people. I would therefore urge that the people continue to give generous support to their schools of all grades and that the schools adjust themselves as wisely as possible to the new conditions to the end that no boy or girl shall have less opportunity for education because of the war and that the Nation may be strengthened as it can only be thru the right education of all its people. I approve most heartily your plans for making thru the Bureau of Education a comprehensive campaign for the support of the schools and for the maintenance of attendance upon them, and trust that you may have the co-operation in this work of the American Council of Education."

Space will not permit us in this article to give more than a bare outline of the practical way in which these new limits might be administered.

1. *Organization necessary.* Some such organization as the following would be necessary:

(a) A state bureau of standards to study conditions, classify communities according to educational needs, define standards, etc. The bureau would be connected with the education department and could be paid out of money saved on school supplies alone.

(b) A state bureau of inspection, which would replace present obsolete bookkeeping with a cost accounting system and modern statistical methods. This bureau would see whether or not standards were observed, and would likewise be self-supporting.

(c) Responsible executives for state and necessary subdivisions, who would enforce the law relating to standards. They could be provided for out of the salaries of political superintendents whom they would supplant.[5]

(d) A state board of authorization, which would have power to permit local tax-levying bodies to exceed tax limits in case of emergency or of new demands imposed by duly constituted authorities.

2. *Administrative procedure.* The following administrative procedure is suggested:

(a) School budgets made ninety days before tax levy and submitted to county supervisors.

(b) Budgets show estimates, by schools; also show which districts want more than legal maximum and why.

(c) Supervisors act thereon and make action public within thirty days; grant public hearing to county superintendent if budget is cut.

(d) Supervisors submit entire county budget to state board of authorization sixty days before tax levy.

(e) Board of authorization submits school budgets to bureau of standards for approval and recommendations; then takes action on all items and budgets which exceed maximum limits.

(f) Electors of any district may vote to reverse opinion of board of authorization or tax-levying body.

(3) *Steps toward the ideal.* The following seem to be the most important steps for the immediate future (based on California conditions):

(a) Adopt some measure to start with; no measure can be ideal at first.

(b) As soon as possible, bring about a separate limit for schools which will be both equitable and effective. (Combination percentage and growth limits preferred.)

(c) Begin standardization, by the adoption of a few simple standards.

(d) As soon as possible, reorganize the school system so as to fill school offices on the basis of merit and so that both educational and business affairs will be classified on the basis of function rather than political subdivision.

Dispel False Conceptions.

The hardest step to take in the direction of efficient school administration is to dispel certain wide-spread misconceptions as to the meaning and function of democracy.[6] We will close by listing a few of the most disastrous ones:

1. That *legislative bodies* should work out administrative details like the standards mentioned. This is work for specialists.

[5]This is no reflection on men in present political offices. Some of them are as good as could be obtained by any methods. Even the best of men, however, cannot but be handicapped when it is necessary to wage an expensive political campaign every few years in order to hold their jobs. There is no more need for a superintendent of schools in each county than for a railroad superintendent in each county traversed by a transcontinental railway.

[6]Our definition of democracy is "a government responsive to the wishes of the majority." In that sense, an inefficient government is undemocratic, no matter what its form.

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Joliet Township High School's Advisory Committee Plan

R. R. Smith

Changes that have been permanent in the political or economic life of a people have come as evolutions not as revolutions. Those few upheavals that have had permanent value, yet have seemed to be revolutions, upon closer examination, are seen to have been the final stages of a long period of evolution, or to have been mere transitory protests against an established order. What is true of the dynamic political and economic life of a people is still more true of that ultra-conservative institution, the school. Those changes in school administration that have lasted have been evolutionary in their nature.

Such is true of the Advisory Committee System which has developed in the Joliet Township High School. It has been evolutionary in its nature. Evolved by Supt. J. Stanley Brown and Asst. Supt. C. E. Spicer, who have been with the school for over a quarter of a century, it has grown with the school, and now is recognized as one of the prime factors of the institution's success in dealing with the "children of Europe" whose parents, attracted to Joliet by the big steel mills, speak 27 different languages.

It will be the purpose of this paper to explain what these advisory committees are, to show how they work in practice, and to give a few of the results that make them worth while.

Advisory committees, as understood in the Joliet Township High School, are committees of teachers chosen by the superintendent of the school to act as individual advisors of students, and to help in working out the programs of these students. These committees work under the active direction of Mr. Spicer who is in frequent consultation with Mr. Brown.

There are five committees, one for each of the four years of high school work, and one for the junior college. These committees are appointed by the superintendent. Each of the high school committees consist of a chairman and four other members. The junior college committee consists of a chairman and two other members.

The specific aim of these committees is to give the student that individual attention which under ordinary conditions students in large high schools do not and cannot receive.

Just how this individual attention is given will be most easily seen by taking a boy thru the school under the advisory committee plan. William Jones is to graduate from the eighth grade in June. Mary Burns is a member of the senior committee which, by rotation, becomes the freshman committee of the following year. She has charge of the incoming students whose names begin with "J". Consequently, William Jones meets Miss Burns about three weeks before he graduates, and is duly "signed up" upon an "assignment card" for the next fall. This card tells what course William is to pursue and the studies he is to take, also the names of the teachers giving these courses. It shows just where he is to be every hour of the day from 8:25 a. m. till 3:25 p. m. It furthermore gives the name and address of William's parents, together with their telephone number, if they have one. William's first meeting with Miss Burns has been brief and pleasant. He is "assigned" and has no further worry till September.

The opening of school comes. William finds himself in auditorium of the high school, just a little scared, tho he tries not to show it. Enter Miss Burns again; she conducts him with a few pleasant words to his "home room." Here the "assignment cards" appear once more and he is asked to copy the program from it in triplicate upon "program cards." William is now in high school and is ready for work.

In the meantime, Miss Burns has made a study of his grade school record and so far as possible has foreseen any difficulties that he is likely to have. If he has been a strong pupil in the grades, she probably dismisses him from her mind for the time. If not, she keeps pretty close watch.

But William and Miss Burns do not officially meet again till the end of the third week of school. Then, if his work has not been satisfactory, she receives notice to that effect from his teachers.

His real acquaintance with Miss Burns begins. She questions him much as a doctor would. She questions his teachers. A letter is sent to his parents apprising them of the fact that William is failing in English or algebra or in both. Miss Burns makes every effort to diagnose his case and to find a remedy. If there is a misunderstanding between him and the teachers, she tries to adjust it. If his temperament and the teacher's are hopelessly incompatible, he is quietly shifted to another class.

William, a second time starts out to make his reputation and does not meet Miss Burns again for two weeks. Then the semi-quarterly grades are sent out and reports of all failures are sent to the advisory committees. If William is still failing another diagnosis is made. Teachers, parents, and Miss Burns bring pressure to bear upon William for seven days. Again his record is taken and he is told to report before the advisory committee upon the following Monday after school.

Along with his fellows in distress, William faces Miss Burns. By this time she has a pretty clear understanding of where his trouble lies. If he is indolent, she sees that more pressure is brought to bear upon him. If he is timid, she takes measures to counteract that timidity. If he has defective eyes, she sees that he goes to an oculist. In fact she does everything that she can to bring William up to standard, the number of things depending upon her resourcefulness.

This close personal contact continues. The two meet regularly every five weeks if William continues to fail and in very serious cases the whole committee is called into consultation. But if William is a typical case, the causes for his failure are found, and as the semi-quarters come around, he fails in fewer and fewer subjects, till finally the day comes when Miss Burns exclaims with the joy of accomplishment, "William Jones is not failing in a single subject." And William, the product of the advisory committee system, rushes home to his mother proudly waving a report card on which no failures are recorded.

It is not claimed that this committee system reduces failures to zero. It is claimed, however, that it reduces them greatly, and that it keeps students in school who would otherwise drop out. An excellent example of just what it does has come under my observation during the last fourteen months. A boy entered from a small school where he had been failing. He failed here. But immediately his committee teacher began to study the case. She found that he needed glasses. He got them. She found that he was so timid that he could scarcely recite. His teachers and parents were induced to cooperate in counteracting this, and also in the matter of getting him to establish regular habits of study. At the end of the semester he passed in all but one subject. This he made up in summer school. The next semester he passed in everything and at present is passing. The other day he proudly exhibited a grade of 95 in geometry.

Such, then, is the working of this system, which has evolved as the school has grown, to meet a need which came as a result of that growth. Five men and women become individually responsible for a class of students who enter high school and remain their personal ad-

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Vacuum Cleaning Systems in Schools

M. S. Cooley, M. E., Washington, D. C.

In the general trend toward better sanitary conditions in our schools, which has steadily increased during the past few decades until practically every school district, large and small, has joined in the march towards perfection, it is important to note that one important phase of this great improvement has been nearly universally overlooked, that is, improvement in the means employed to remove dust and dirt from the buildings.

While schools have almost universally been provided with improved appliances and facilities for improvement of the physical condition of the occupants, such as adequate supply of pure air, mechanically purified and conditioned, which supply has been considered so important as to be regulated by legislation in nearly all states of the union; gymnasiums for the development of the bodies of the pupils; bathing facilities and later swimming pools combining cleanliness with bodily development, have come to be considered as a necessity in all up to date high and intermediate schools. Outdoor playgrounds, which formerly consisted of a place for children to congregate in the open, are not now considered complete without elaborate apparatus to induce the children to spend their recess in the open.

No school building would be allowed to exist without perfectly sanitary and up-to-date plumbing, yet the antiquated method of cleaning the buildings with broom and duster has been considered good enough by all but a few cities, who have carried their investigation of vacuum schoolhouse cleaning far enough to standardize an efficient type of machine for this purpose.

Such cities have found such a system to be indispensable, and after a thoro test of the systems installed are extending their use to all of their school buildings. Among these cities are Akron, Ohio; Boston, Mass.; Cincinnati, Ohio; St. Louis, Mo.; Bloomington, Ill.; Springfield, Mass.; and Bridgeport, Conn.

That the dangers of dust are well known to the medical profession is clearly shown by the following quotations:

Woods Hutchinson, M. D., says: "Wherever there is dirt or dust, there is danger."

J. Gordon Ogden, Ph. D., declares that, "Dust is the right hand of Death."

W. A. Evans, M. D., writes: "If they (carpet beaters) dropped over dead while beating the carpet, instead of months later, the practice of carpet beating would stop at once."

Dr. Mayo argues from his vast experience that "More women patients, three to one, are sent to hospitals than men. This comes in a large degree from the fact that women live indoors and breathe a dust-laden, second-hand atmosphere which depletes their vitality."

Dr. Jacobi says: "Children in arms are practically immune from the diseases common to childhood. Only after the child begins to creep over the rugs, carpets and on the floor, where are found the foul air and disease germs, does he contract such ailments."

Dr. George J. Holmes made some photographic tests in the public schools in Newark, N. J., the results of which showed that when broom sweeping was used the air was fairly laden with bacteria which are detrimental to the health of pupils.

Dr. Holmes further says: "I consider it little short of criminal in an age when broom sweeping is considered, and has been proven by the highest medical and scientific authorities to be harmful, to continue such practice."

Dr. Tilden writes: "The benefits of sleeping out-of-doors will be overcome and neutralized if we spend our days in stuffy offices and homes that are swept by brooms and portables, where dust is distributed instead of being removed."

A bacteriological investigation, in a modern schoolhouse where the air is purified and recirculated and where all sweeping is done by a central vacuum cleaning system which removes the dust instead of spreading it, shows a microbic content of from 6 to 28 microbes per cu. ft. of air, while even the outdoor air showed from 56 to 72. Such results would be impossible without a correctly designed modern cleaning system.

The principal objections to the installation of mechanical cleaning systems are: first, the cost of installation and operation; second, the impression that it requires more time to clean a room with a mechanical cleaner than with brooms and dusters.

In answer to the first objection, Have we not installed in all modern schools ventilating systems which cost five times as much to install as a good mechanical cleaning system and twenty times as much to operate? The advantages gained from the installation and operation of such costly systems is in a large measure undone if the dust, dirt and microbes which are brought in by the occupants of the building are not removed from the building, but stirred up and spread by brooms and dusters.

Further, the cleaning system manufactured by one of the most progressive vacuum cleaner manufacturers, combines with an efficient and economical mechanical cleaning system, an attachment, at slight extra cost, which affords an easy and thoro method of cleaning the tubes of a fire tube boiler. The daily use of this attachment in connection with one 150-horsepower boiler has shown a saving of one-quarter of a ton of coal per day, besides affording the engineer an easy, rapid and dustless method of cleaning flues.

This saving in fuel, at the present prices, will amount to nearly two dollars per day for a period of at least 120 days during the school year, a total of $240.

An efficient cleaning system should be installed in an average school for not exceeding $2,000. Allowing six per cent interest on the investment or $120 the operation of the plant two hours per day for 175 days at a cost for current of 20 cents per hour, will amount to $70 per year. Interest and operation will thus cost $190 per year. The net saving in cost of operation of the power plant will be $50 per year, with the advantage of an up-to-date sanitary cleaning system, and a saving in coal consumption of 30 tons per year, which is certainly a very efficient tag on the schoolhouse coal shovel.

There has been good cause for the school boards to consider the second objection a just cause for criticism. Much of it can be laid at the doors of the early attempts at vacuum cleaning with the apparatus marketed by many of the foremost manufacturers of vacuum cleaning systems.

In 1911 the school board of Detroit, Michigan, made a test of vacuum cleaners with the view of introducing them into the schools. Unfortunately one of the most progressive manufacturers was unable to get his machine in Detroit in time for the test, due to late notification of same. Prof. John R. Allen of Ann Arbor was employed to conduct this test and he made the following statement before the American Society of Heating and Ventilating Engineers at Chicago, Ill., July 8, 1911, regarding these tests:

"As far as speed of cleaning is concerned, the vacuum cleaner can never compete with the broom. We made a test in a schoolroom and allowed all vacuum men to clean a room around the seats. The result was that it required from 15 to 26 minutes to sweep the room with a vacuum cleaner. We had a janitor do the same work with a broom in less than four minutes. As far as labor is concerned it is a little more work for the janitor to sweep with the cleaner than with the broom. Undoubtedly there was a great advantage in saving of dust, and the vacuum cleaner recommends itself for introduction in school work for this reason largely."

Such a statement from as good authority as Professor Allen is sufficient ground to cause any school board to hesitate in purchasing a mechanical cleaning system.

The writer considers, however, that the time for cleaning with a broom stated by Professor Allen is much shorter than is necessary to thoroly clean such a room, observation being that ten minutes is a good average for a thoro broom sweeping without any allowance for the additional time required to dust after the broom sweeping.

The reasons for the conditions noted by Professor Allen were no doubt due to the use by the manufacturers competing in this test of apparatus and appliances which were not suitable for the work required of them. In concluding his remarks Professor Allen showed that he appreciated that such conditions existed by the following statement: "But there are several things obvious. In the first place the vacuum cleaner people do not know what they are doing. Some of the cleaners have given vacuums all the way from 7½ to 15 inches and other varieties are nearer 2 to 15. They have vacuum pumps that produce anywhere from 2 to 26 inches. The makers have very little knowledge of the vacuums required to do certain work. The weight of machines to do the same work varied all the way from 500 to 7,000 pounds. The power required to do the same amount of work varied from two to seven horsepower so that there seems to be no agreement as to the method that shall be pursued in getting results. The subject has not been standardized at all."

The writer is pleased to be able to state that at the time that these tests were being made at least one manufacturer, who was unable to get his apparatus to Detroit in time to compete in the test, was endeavoring to standardize the subject and had made considerable progress at that time and has since completely standardized his apparatus, and thru his efforts a standard for efficient mechanical cleaning has been adopted by practically all the leading manufacturers of vacuum cleaning systems.

In order to show conclusively that the time of cleaning was dependent on properly designed tools and appliances and that sufficient suction and air volume were necessary to obtain rapid cleaning and to ascertain the speed of cleaning with the most efficient appliances obtainable, the writer made a series of tests, all by the same operator, in cleaning schoolrooms with various appliances marketed in connection with vacuum cleaner systems.

First Test. The first test was made with an exhauster which produced a vacuum at the floor renovator equivalent to 1 inch mercury column. The renovator was rigidly attached to the tubular handle and this handle rigidly attached to the suction hose. With this system seventeen minutes were required to clean a forty-desk schoolroom, fitted with pedestal desks, and the

operator remarked that he had to wait for the machine to pick up the dirt before moving forward.

Second Test. The next test was made in a room 33 ft. by 25 ft., having 44 four-legged desks and 44 pedestal stools, sixteen kindergarten chairs, two large chairs, one teacher's desk, and one table, and was made with the same type of renovator as was used in first test, but with a vacuum at end of the hose equivalent to 2 inch mercury column, and the room was cleaned in twelve minutes. In this test the suction removed the dirt as fast as the tool could be moved by the operator.

It was noted, however, that it was impossible to keep the cleaning edges of the renovator close to the floor when working around the legs of the desks and under the teacher's desk. The cleaning hose was stiffly connected to the cleaning handle and caused the hose to become kinked so that it was always getting in the way of the operator. The operator perspired considerably during this test and complained that the stiff hose cramped his hand and wrist.

Third Test. The rigid connection between the hose and cleaning handle was then replaced by a swivel double elbow, identical with that in the operator's right hand in the illustrations. This elbow allowed the hose to hang free at all times. In the test made in a room exactly the same as in the second test, the cleaning time was reduced to eight minutes. In this test the operator stated that the hose "followed him like a dog" and he was not troubled with cramping in his wrist.

The truth of the above statement can be easily verified by inspection of the cuts which illustrate the operation of this swivel. When in operation it is possible for the operator to make a forward and backward stroke, necessary for proper operation of the cleaning tool, without moving the hose on the floor. The swivel allows the hose to bend backwards and forwards during the stroke without other motion. When the operator moves either forward or back the swivel will permit him to hold the handle at the proper angle for effective cleaning even if the hose fails to follow him. When the swivel has straightened sufficiently the hose must naturally follow without effort on his part.

Fourth Test. The connection between the renovator and the handle was then fitted with a swivel joint, shown in the illustration, so arranged that the renovator could be worked around an obstruction by simply twisting the handle and, with this arrangement a room, exactly the same as in the second and third tests, was cleaned in four minutes.

The operation of this joint must be seen to be appreciated. The illustrations, however, will give a fair idea of its possibilities. In the illustration cleaning around a desk pedestal the cleaner is shown at right angles to the stem, and in this position the angle the stem makes with the floor, is correct to bring the handle at proper elevation above the floor to insure easy operation. A slight twist of the handle will cause the renovator to change its angular position relative to the handle and at the same time decrease the angle the stem makes with the floor. When the stem becomes parallel to the floor the cleaner makes an angle of 45 degrees with the stem. This condition is shown in illustration of cleaning under a teacher's desk. A little practice on the part of the operator enables him to perform seemingly impossible feats with a cleaning tool equipped with this attachment, such as —making the cleaning tool pass all around a desk leg, close along the junction of the base board and the floor, along the top of a picture molding or entirely around the trim of a door. All the time the working face of the cleaning tool is in proper position, relative to the surface cleaned, to do effective cleaning.

Fifth Test. Three classrooms having 44 single pedestal desks, two chairs, one table and teacher's desk were cleaned with the equipment the same as fourth test, in 2½ minutes each and the operator appeared to be able to keep this up indefinitely.

These tests show conclusively the difference in time required for cleaning with different equipment. The same operator made all these tests and was one who had made a study of cleaning such rooms and endeavored to make as fast time as possible in every case with the result that the time required varied with the different types of cleaning tools from two and one-half to seventeen minutes or nearly seven to one.

With a mechanical cleaning system which can be operated to clean an average schoolroom in three and one-half to four minutes, it is evident that a schoolhouse can be cleaned with a vacuum cleaning system in less time than is required when using brooms and brushes, with the further advantage that no dust is scattered about requiring dusting.

The cleaning in a 48-room school is now accomplished with four janitors using a modern central vacuum cleaning system, where it required five janitors when using brooms. And further, the cleaning is done in approximately one-half the time required with the former methods. The saving in cost of cleaning in this school pays over 30 per cent on the investment and insures at least a 25 per cent cleaner building.

When a vacuum cleaning system is used there is absolute freedom from dust and therefore the necessity of oiling floors or using oiled sawdust is avoided, with the result that teacher's clothing is not soiled by contact with oiled floors. The sweepers find the work lighter and more pleasant with a central cleaning system, as it is done in pure air, while brooms required harder work in a dust laden atmosphere.

To obtain results equal to these above noted, it is necessary to have a plant properly designed and proportioned for the work required and the following suggestions relative to the various parts that go to make up such a system are given.

Size of plant. It is absolutely essential that the plant be of proper capacity for the work required. This is easily computed from the floor area to be cleaned. The tests given in this article show a rate of cleaning of 800 sq. ft. in four minutes, or at the rate of 12,000 sq. ft. per hour with four legged desks and 19,000 sq. ft. per hour with pedestal desks. This, however, makes no allowance for time required to move from room to room, and an average of 7,000 sq. ft. per hour should be a good record and is recommended as a basis for determining size of plant by the following rule:

$$\frac{\text{Sq. ft. floor area to be cleaned}}{\text{7,000 times available hours for each cleaning}} = \text{Sweeper capacity of plant required}$$

Good Type of Cleaning Tool for Classrooms.

Location of Inlets.

The number and location of inlets to piping system should be such that all parts of building can be reached with 50 ft. of hose. The best method is to locate one inlet in each classroom and two or more inlets in auditoriums or other large rooms. With this arrangement cleaning can be done without disturbing occupants of other rooms.

Cleaning Tools.

These tools should be as large as can be conveniently handled, with a cleaning slot wide enough to pick up all litter not easily picked up by hand, and of light and slim but rugged construction fitted with renewable wearing surfaces of such a character as will insure reasonable life and not injure the surface cleaned. A tool 15 inches long with a cleaning slot not less than ⅞ inch wide constructed of pressed steel, having wearing faces of canvas and rubber similar to "Tucks" packing is recommended. The handle, or stem, connecting tool to hose should be steel tubing as light as practical, No. 20 gauge recommended. It should be provided with a swivel joint where it is attached to the cleaning tool, so constructed that the tool can be moved around obstructions by a simple twist of the handle. There should also be a double swiveling elbow where the hose is attached to the handle as described in tests Nos. 3, 4 and 5. The inside diameter of handle should not be less than 1⅛ inches to prevent sand blasting due to high air velocity.

The Hose.

Revolutionary improvements have been made in vacuum cleaner hose in the past few years, and it seems pretty well established that the best results are obtained from good quality rubber and duck hose reinforced with oil tempered ribbon steel, the inside diameter not to exceed 1½ inches and the weight not to exceed 12 oz. per ft.

Couplings should be a type that will not pull apart and there should be no exposed metal parts to mar floors or furniture, and no screw threads to become jammed.

Vacuum and Volume Required.

The only vacuum that amounts to anything in vacuum cleaning is that maintained at the end of the hose while the air required in actual cleaning is passing and the only volume that amounts to anything in vacuum cleaning is that drawn under the tools while cleaning, and that depends solely on the vacuum in the tool while sweeping. It is obvious, therefore, that the many statements, wherein some vacuum cleaner manufacturers claim to clean without much vacuum because they move a large volume, and others that claim not to require much volume because they have a high vacuum while little or no air is moving, are misleading and untrue.

Many of these statements are made by agents in good faith. I had an agent of a well known make of vacuum cleaner tell me of a test he made on his cleaner in competition with another make in which he stated the air volume moved by the two types of cleaning tools. Having tested both types, with vastly different results, I inquired as to the nature of the surface being

cleaned while testing, and was informed that the tools were held suspended in the air. When I asked him if that was the way he usually cleaned carpets, he seemed surprised to hear that any difference in the amount of air moved could occur had the tools been in cleaning position.

Another manufacturer blocked the cleaning tool in proper position for cleaning and placed a weight on same when measuring the volume of air passing same, and then claimed his renovator required less air than any reported in my tests. When I called his attention to the fact that his renovator was not measured under operating conditions, he admitted that considerably more air would pass under the cleaning tool if moving. He claimed the excess air to be "leakage" and that it did no good in cleaning and therefore should not be considered in obtaining the efficiency of his renovator.

Many tests have been made by the writer and the Bureau of Standards, as well as by several manufacturers, in order to obtain a standard for testing vacuum cleaning systems. These tests are reported in detail in the author's books on Vacuum Cleaning Systems. The tests indicate that the volume of air required by a 15 inch bare floor cleaning tool in actual use is the same as passes thru a $\frac{7}{8}$ inch round, sharp edged orifice in thin plate placed at the end of the hose. From this it follows that the test of vacuum cleaner system for bare floors is the degree of vacuum maintained at the end of the hose with a $\frac{7}{8}$ inch orifice open, and it has been well established that 2 inch mercury vacuum, with the $\frac{7}{8}$ inch orifice is the minimum for rapid work. The results of first and second tests described bear out this statement.

It has been equally well established that a minimum of 3 inch mercury vacuum back of a $\frac{5}{8}$ inch similar orifice is that required for rapid carpet sweeping.

To insure uniform sweeping results under all loads at all parts of the building, the vacuum maintained at the machine should not exceed 6 inches of mercury at any time.

Piping.

To secure the above mentioned vacuums at the end of the hose, the piping system must be carefully proportioned and recessed fittings, insuring a smooth and uniform bore, should be used.

No piping smaller than 2 inches should be used and risers where two sweepers are to be used simultaneously, should not be less than $2\frac{1}{2}$ inches. The main pipes should be of ample size to sustain the number and size of risers used. No piping system should be installed without securing the approval of the vacuum cleaner manufacturer, who is to install your system.

Separators.

A great variety of devices have been developed for separating the dirt from the air, some by a water spray or seal. This proved unsuccessful owing to the high cost of water, or, if recirculation was resorted to, the accumulation of mud caused grinding and corrosion of the apparatus. The filtration process by cloth or metal screens was found unsatisfactory owing to the clogging which soon cut down the vacuum and the rotting of the cloth which made it liable to rupture. A refinement of the centrifugal separator has been produced that gives very efficient as well as permanent and satisfactory results and most of the progressive manufacturers have now adopted it.

Vacuum Producers.

The important lesson that appeared to be necessary for vacuum cleaner manufacturers to learn in designing vacuum producers was that

Cleaning Under Desks. Advantages of Double Swivel and Single Standard Desks.

no matter how satisfactory various kinds of pumps might be purely as air pumps handling clean air, their satisfactory operation did not extend to their use as vacuum cleaners.

Many of the rotary and reciprocating positive pumps, while efficient air handling devices, had to be so highly protected from dust that the whole apparatus was rendered inefficient by the forms of separator necessary. When any derangement or rupture of the separator occurred the pumps were quickly ruined.

In order to maintain the constant vacuum required for uniform results, whether more or less sweepers were put into use, it was necessary to employ various governors or speed controlling devices in conjunction with the positive pumps, often more complicated than the pumps themselves.

The fan type of vacuum producer inherently maintains a constant vacuum whether few or many sweepers are used. It has wide clearances rendering the machine immune from the dangers connected with dirt handling and requires no governors of any kind; and hence seems to be particularly suited to the requirements of vacuum cleaner work. The only serious difficulty encountered, i. e., the high peripherial velocity necessary to produce sufficient vacuum has been overcome by the use of several fans in series, none of which need to run at a high peripherial velocity to produce the vacuum required for any kind of vacuum cleaning. The multi-fan turbine also lends itself to an almost infinite range in proportioning the vacuum to the volume, making possible an over-all vacuum cleaning efficiency not approached by any other known system.

The question is often raised as to the possibility of the same machine producing proper conditions for both efficient bare floor cleaning and efficient carpet cleaning, and it was formerly supposed that intricate governing mechanism was required to produce the desired results in this line. It has been found, however, that the inherent characteristics of the multi-stage turbine, together with the proper proportioning of the piping system, hose, tools, etc., make possible the most perfect results in both bare floor and carpet cleaning without the use of any auxiliary governing devices whatsoever.

For heavy duty cleaning, such as required in schools, office buildings, etc., $1\frac{1}{2}$ inch hose is required, to secure simultaneously the correct air stream conditions for both bare floor and carpet cleaning.

Tests of Installations.

When a plant has been purchased the question of determining if it is fulfilling the requirements for efficient cleaning confronts the purchaser. The method which naturally suggests itself is to attach renovators to the required number of outlets and measure the vacuum in the renovator while the same is being operated over the floor. This method is open to objection that the personal element enters into the operation of the renovator, and further that as many operators as the renovator capacity of the plant is required. Expert manipulation of the renovator will produce a higher vacuum than is obtained in practice, while a novice will be likely to so manipulate the renovator that a lower vacuum will be produced.

The best method of obtaining a uniform test is to substitute a metal disc, with a hole drilled in the same, in the end of the hose in place of the renovator and measure the vacuum back of said orifice. Care must be taken that the tube leading to the vacuum gauge is not so placed that it will be affected by air currents. If a straight tube be used, with an orifice at the end, the opening for the vacuum gauge should be not over 1/32 inch diameter placed at least nine inches back of the orifice. Another method is to have the orifice on the equatorial diameter of a sphere, four inches in diameter, and attach the hose and vacuum gauge at the poles.

With either arrangement an orifice in a thin plate $\frac{7}{8}$ inch diameter represents a 15 inch bare floor tool and a similar orifice $\frac{5}{8}$ inch diameter a 15 inch carpet renovator.

The following is a suggestion for a specification for a vacuum cleaning system which will insure the purchase of a first-class installation.

Specification.

Building Construction. Should be described in detail as to material of floors and walls in order that the contractor may know what character of cutting will be required.

Finish. Should be given in order that the contractor may know what materials he must finish his work to match.

Location and height of outlets should be stated, also whether the risers are to be exposed or concealed.

Scope of Work. This contract is to include the furnishing and installing of a vacuum cleaning system for the removal of dust, dirt, and litter from rugs, carpets, floors, stairs, furniture, shelves, and other surfaces, fixtures and furnishings thruout the building and for conveying such dust, dirt, litter, etc., to suitable receptacles located in the basement, and is to include all necessary cleaning tools, hose, piping, separators, exhaustor, motor, etc., to make a complete working system.

Vacuum Producer. Producer shall be of sufficient capacity to operate —— sweepers as hereinafter specified. The power required to operate shall not exceed $2\frac{1}{2}$ K. W. per sweeper, and beyond friction load shall be in direct proportion to the number of sweepers in use.

The vacuum at the machine must not exceed 6 inches of mercury at any time, and a machine requiring no auxiliary governing devices is preferred.

Machine shall be so constructed as to prevent excessive wear from any cause. Bearings shall be self oiling type and must operate under maximum load without undue heating. Machine shall be constructed with clearances of not less than $\frac{1}{4}$ inch to avoid cutting action of the dust or effective means must be provided to keep the dust from contact with moving parts. In the event that water is used to prevent cutting action the contractor shall state in his proposal the amount of water required, the cost of which

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The Junior Red Cross in Dubuque, Iowa

Supt. James H. Harris

In June an exhibit of work done by the Junior Red Cross organizations of the Dubuque city schools was held, and it kindled the interest and enthusiasm of the people of the city to an unusual degree. There were over 3,000 admissions during the two days it was open, and both the quantity and the quality of the work were a revelation to the visitors, most of whom had scarce heard of the Junior Red Cross.

With the parent organization they were, of course, familiar, but the Junior organization had attracted little attention. It had never been particularly heralded; its activities had been carried on quietly, and few people had taken it seriously. The exhibit, therefore, came in the nature of a surprise and for that very reason perhaps was all the more appreciated.

The work of organizing Junior Red Cross auxiliaries in the schools of Dubuque was initiated by the Superintendent of Schools in January. The first two months of the year were devoted to perfecting the organizations, raising necessary funds, and qualifying as auxiliaries. To become an auxiliary, a school must subscribe an equivalent of 25 cents apiece for each child enrolled, or it must supplement its financial quota, in case that cannot be fully met, by pledges of service, covering a variety of activities of a patriotic nature.

As a matter of fact every school in Dubuque raised its quota of money—an amount in dollars equal to one-fourth of its enrollment—and rendered the service in addition. These funds were gathered, in part by the payment of the 25 cent fee for membership, and in part by entertainments and lantern or moving picture shows. As all the schools are equipped with lanterns, and three of them with moving picture machines, entertainments were comparatively easy to provide and were always well attended.

In a district where the individual fee was not easy to collect and where the school might not have a moving picture machine, another school possessed of a machine would loan it for use in raising the necessary funds. This spirit of mutual helpfulness was one of the interesting by-products of the entire enterprise. When the separate schools in the system had all become auxiliaries the active work of making articles for the refugee children in Belgium and France and for the American soldiers, began.

Table I—Summary of Articles Made By Junior Red Cross, Dubuque, Iowa.

SCHOOL	ARTICLES										
	Layettes	Comfort Bags	Quilts	Afghans	Towels	Hospital Bags	Tray Cloths	Selvage Rolls	Gun Wipes	Blankets	Knitted Quilts
Franklin	5	6	6	..	72	12	..	..	800	1	.
Prescott	10	10	7	..	56	...	..	2	1500	.	1
Lincoln	18	48	25	8	165	40	25	5	8000	.	2
Audubon	10	10	15	5	59	18	..	2	5000	.	.
Fulton	6	12	14	..	60	...	..	..	600	.	.
Irving	5	12	33	..	120	...	24	50	3000	.	.
Marshall	2	..	33	..	54	106	..	..	1500	.	.
Totals	56	98	133	13	586	176	49	59	20400	1	3

At first the work was not well organized and while one or two schools were actively engaged others were lagging. To remedy this the superintendent organized an executive committee consisting of one teacher from each school, and placed the general direction and management of affairs in their hands.

From that time on, the work assumed new life and energy. The committee proved itself an efficient one, and thru systematic organization of the activities in each building and painstaking attention to every detail, accomplished results which were in the highest degree creditable. The teachers in each school were divided into groups of two, each group having a company of school girls in its charge. The work was carried on almost entirely after school, groups often bringing supper and remaining thru the evening.

The committee kept in close touch with the Senior Red Cross organization as to the kinds and qualities of articles needed and the standards of workmanship. As a result of this cooperation together with a close adherence to the official manual of activities of the Junior Red Cross, there was no misdirected effort or misapplied energy.

In the purchasing of materials the committee exercised unusual care and business sense. The lowest possible prices were secured from dealers, and not a penny was wasted. Parents contributed many pieces of material which might otherwise have been wasted. Economy marked every step of the work, yet no sacrifice was made in the quality of the goods.

About the middle of May the work was seen to be progressing so satisfactorily, and the amount and variety of garments and articles were so far exceeding expectations, that it was felt to be due to the Junior Red Cross, the schools, and the public, to hold an exhibit, and June 7 and 8 were fixed as the dates. An unoccupied store in the heart of the business district was made available thru the generosity of the owner, and here the exhibit was held. The favorable location of the exhibit was a considerable factor in bringing it more directly to the notice of the public and in increasing the at-

(Concluded on Page 77)

VIEWS OF TYPICAL EXHIBITS OF RED CROSS ARTICLES MADE IN THE DUBUQUE SCHOOLS.

UNIFORMITY IN SCHOOL ACCOUNTING[1]

James Storer, Secretary of the Board of Education,
Buffalo, N. Y.

Public Education is a state function. A board of education acts as an agent of the state and also acts in the capacity of agent for the local community in establishing the policies under which the officials, teachers, etc., of the department shall operate in the administration of its schools.

To operate this educational system, money must be provided and without doubt a very reasonable amount. Every addition made to a school system with a view of increasing its efficiency means the expenditure of additional funds for equipment and maintenance. If the money needed for additional educational activity is eliminated from the school budget, it deprives the pupils of an opportunity of participating in that activity, hence we find that, when the board of education in any growing American city is trying to keep up the school system of its community with the progress of American education, it is also asking for increased appropriations for maintenance. Allow me to quote Prof. E. P. Cubberley: "The only way to make better schools is to spend in an intelligent manner, a constantly increasing amount of money on them."

The problems of securing the funds necessary for school administration rests with the board and the superintendent, hence upon them rests the burden of proving to the community the needs of the school department. The public is entitled to know and should know how "school appropriations" are expended.

This naturally leads me to the discussion of the topic "Uniformity in School Accounting." In all our cities we find citizens who are interested in the schools of their city and are proud of the fact that the city maintains a high school with an enrollment of 1,000 pupils, 50 men and women on the faculty and that this special feature or that special feature may be found in their high school. These same citizens very likely would be very interested in making comparisons of their city with other cities of nearly the same size, that is to analyze the statistics of other cities of nearly the same size in order to ascertain whether or not, the teachers receive the same salary in all of the cities, if the repair of buildings and upkeep of grounds is nearly the same in all cities, if the cost of education per pupil is nearly the same and many other items which cannot be enumerated.

If this is true of the people of our communities, it is equally true of the officials of the school system who must prepare the estimates of expenditures for presentation to the city council.

A board of Education may have under consideration the establishment of a special class for the instruction of the "partially blind." One of the first steps will be that the superintendent or secretary find out what is being done in other cities and what does it cost. Files are resorted to and the annual reports of various cities searched. In some it is found, in others not. Why? Because up to a very few years ago there were about as many different methods of school accounting as there were city school systems. It is only within very recent years that city school systems have adopted a fairly uniform "form" to be used in recording financial statistics.

Railroad companies, insurance companies, interstate corporations, banks, etc., all use uniform or standardized methods of accounting, and find this to be an absolute necessity for intelligent and profitable administration.

In order then to make comparisons of cost for different items and for different parts of a school system, it has been found expedient to gradually adopt a uniform financial report, so that when the superintendent and the board of education are considering budget estimates they may have before them not only the statement of annual expenditures of their own city for various educational activities over a period of years, but that of other cities of the same size situated in the eastern, southern, northern or western part of the United States.[2]

Thru the use of a uniform financial report the school authorities are given valuable information which can be of great service in asking the Council for appropriations. The actual expenditures in other cities for identical items can be quoted because they are available, and so in many cases civic pride is aroused by the moral force of a neighboring city.

Thru the use of uniform financial reports, a gradual elimination of "lump sums with no details" is being brought about. School officials can now readily provide information when requested as to the total expenditures for

Salaries of Principals of Day Elementary Schools.

Salaries of Principals of Day High Schools.

Salaries of Principals of Evening Elementary schools.

Salaries of Principals of Evening High Schools.

Salaries of Principals of Vocational Schools.

Salaries of Principals of Normal Schools.

Salaries of Principals of Special Schools,

whereas in former years, all of the above appeared in the financial statement as salaries of principals. The same is true of the salaries of teachers, cost of textbooks, janitorial service, etc.

The United States Bureau of Education, the United States Census Office, the University of the State of New York, the Association of School Accounting Officers and the Committee of the National Council of Education on Uniform Records and Reports have co-operated in preparing a form which has been adopted within recent years by many city school systems.

The form recently adopted in the State of New York involved the keeping of all school financial records under the following headings:

1. *Expenses of General Control.*
   (Overhead Charges.)
   (Classified for Ledger Column, Total, Salaries and Other Objects.)
   A. Business Administration.
      1.—School election.
      2.—Board of education and secretary's office.
      3.—Finance offices and accounts.
      4.—Offices in charge of buildings and supplies.
      5.—Legal services.
      6.—Operation and maintenance of office buildings.
      7.—Other expenses of business control.
   B. Educational Administration.
      8.—Office of superintendent of schools.
      9.—Enforcement of compulsory education truancy laws and census enumeration.
      10.—Other expenses of educational control.
      Total Expenses of General Control.

2. *Expenses of Instruction—Day Schools.*
   (Classified under Ledger Column, Total, Elementary, Secondary, Normal, Vocational, Special.)
   Supervision.
      11.—Salaries of supervisors of grades and subjects.
      12.—Other expenses of supervisors.
      13.—Salaries of principals.
      14.—Salaries of principals' clerks and office assistants.
      15.—Other expenses of principals' offices.
      16.—Other expenses of supervision.
   Teaching.
      17.—Salaries of teachers.
      18.—Textbooks.
      19.—Other supplies used in instruction.
      20.—Other expenses of instruction.
      Total Expense of Instruction for Day Schools.

3. *Expenses of Instruction—Night Schools.*
   (Classified under Ledger Column, Total, Elementary, Secondary, Normal, Vocational, Special.)
   Supervision.
      21.—Salaries of supervisors of grades and subjects.
      22.—Other expenses of supervision.
      23.—Salaries of principals.
      24.—Salaries of principals' clerks and office assistants.
      25.—Other expenses of supervision.
      26.—Other expenses of principals' offices.
   Teaching.
      27.—Salaries of teachers.
      28.—Textbooks.
      29.—Other supplies used in instruction.
      30.—Other expenses of instruction.
      Total Expense of Instruction for Night Schools.
      Total Expense of Instruction.

4. *Expenses of Operation of School Plant.*
   (Classified under Ledger Column, Total Salaries, Other Objects.)
      31.—Wages—Janitors, other employes.
      32.—Fuel.
      33.—Water.
      34.—Light and power.
      35.—Janitors' supplies.
      36.—Services other than personal.
      37.—Other expenses of operation.
      Total Expenses of Operation of Plant.

5. *Expenses of Maintenance of School Plant.*
   (Classified under Ledger Column, Total Salaries, Other Objects.)
      37.—Upkeep of grounds.
      37.—Repair of buildings.
      Repair and replacements.
      38.—Of heating, lighting and plumbing equipment.
      Of apparatus used in instruction.
      Of furniture.
      Of other equipment.
      39.—Other expenses of maintenance of school plant.
      Total Expenses of Maintenance of School Plant.

6. *Expenses of Auxiliary Agencies and Sundry Activities.*
   (Classified under Ledger Column, Total, Salaries and Other Objects.)
      40.—Libraries, salaries.
      40.—Books, repairs and replacements.
      40.—Other expenses for libraries.
      41.—New books (capital outlay).
      Promotion of health.
      42.—Medical inspection.
      42.—Nurse service.
      42.—Dental service.
      42.—Other expenses.
      43.—Transportation of pupils.
      44.—Care of children in institutions.
      45.—Provision of lunches.
      46.—Community lectures.
      47.—Social centers.
      48.—Recreation.
      49.—Other auxiliary agencies and sundry activities.
      50.—Payment to private schools.
      51.—Payments to schools of other civil institutions (tuition).
      Total Expenditures for Auxiliary Agents.

7. *Expenses of Fixed Charges.*
   (Classified under Ledger Column, Total, Salaries, Other Objects.)
      52.—Pensions.
      53.—Rent.
      54.—Insurance.
      55.—Taxes.

[1]Presented at the meeting of the Department of School Administration, in session, July 3, 1918, at the Convention of the National Education Association at Pittsburgh, Pa.

[2]For those who are interested in the preparing of budgets, see Article "Efficient Finance in a City School System," by F. W. Ballou, The American School Board Journal, June, 1918.

56.—Contributions and contingencies.
Total Expenses of Fixed Charges.
Total Current Expenses.

8. *Expenses of Debt Service.*
(Classified under Ledger Column, Total, Salaries, Other Objects.)
57.—Redemption of bonds.
58.—Payment of sinking fund.
59.—Redemption of short term loans.
60.—Payment of interest on bonds.
61.—Payment of interest on short term loans.
62.—Refunds (tax and tuition).
Total Expense of Debt Service.

9. *Expenditures in Capital Outlay.*
(Acquisition and construction.)
(Classified under Ledger Column, Total salaries, Other Objects.)
63.—Land (new).
63.—Improvement of new grounds.
64.—New buildings.
65.—Alteration of old buildings.
New buildings and grounds.
66.—Heating, lighting, plumbing and electrical.
66.—Furniture.
66.—Instructional apparatus.
66a.—Other equipment.
Old buildings and grounds, exclusive of replacement.
67.—Heating, lighting, plumbing and electrical.
67.—Furniture.
67.—Instructional apparatus.
67a.—Other equipment.
68.—Other capital outlay.
Total Expenditures in Capital Outlay.
Total Payments for the Year.
Balances at the Close of the Year.
Total Payment and Balances.

For those who are interested in securing a copy of this form, write to the State Department of Education of New York, Statistical Division, Albany, N. Y.

Income Receipts should also be carefully classified. The following is suggested:

Receipts. (Include all departments.)

1. Balance on hand at close of Fiscal Year.
2. Public money from the Council for salaries and supplies. (This may be itemized and classified to whatever degree feasible.)
3. Amount deducted from teachers' wages for teachers' retirement fund.
4. Quota apportioned by the Federal Government for
Vocational Education.
School Gardening.
Other activities.
5. Quota apportioned by the State for Instruction.
General Academic.
Vocational.
Physical Education.
Teachers' Training Class.
Agricultural Schools.
Supplies.
Vocational.
Visual Instruction.
School Gardens.
Libraries.
Reproductions of Art.
6. City Revenues from
Tuition from non-resident pupils.
Sale of articles manufactured by pupils in vocational schools.
Refunds for lost or mutilated textbooks.
Forfeits of registration fees.
Receipts from conducting school luncheons.
Rents.
Insurance.
Other Items.
7. Amount received during the year from the sale of Bonds.
8. From all other sources not mentioned above.
Total Receipts.

Better accounting methods lead to the preparation of a better annual budget and a better annual report of the superintendent. With such a system of keeping records the superintendent may report to the board of education at any time the per pupil cost for any form of service or supply and the per building cost of any item of maintenance or upkeep and to check wastes wherever found. The board of education in turn may determine the most effective and the most economical units of organization and administration for the schools.

It is recommended that such a system of bookkeeping or such a system of keeping financial records, should be installed in every city, and from such financial records, clear, accurate statements should be prepared, similar to bank statements, and given to the community at least once a year, so that the people, the tax payers, the parents of the children (for schools are for the children) may know how the school budget is expended by its board of education.

In conclusion, "Let us stop wastage, extravagance and poor administration in school accounting, make use of the systems available, help to improve them, and thereby aid this glorious and great country of ours in prosecution of this war, which will bring us victory and so do our bit as schoolmen in making the "world safe for democracy."

STANDARDIZATION OF SCHOOLS

C. W. Tenney

School superintendents and trustees, both in and outside of the state, have taken much interest in the plan of standardization of schools that has been adopted and used most successfully by the Montana state department of education.

Before taking up this work in 1915, a circular letter was sent out to the states that had worked on this line and samples of the score cards secured. Then from these a blank was formulated that was suited to the needs of Montana and the good work was started. Each and every school that received 75 out of a possible 100 points was awarded a nameplate, bearing the words, "Standard School" and, whenever possible someone from the state or county office attended the exercises that were usually held at the time the nameplate was tacked up and took a part in the program that was rendered.

At the end of the first year of the work, in spite of the fact that it was insisted that no school should be standardized until it had done the best it could, in addition to meeting the absolute requirements, of the score card, it was found that quite a number of schools that were not exactly ideal in their appointments, had been awarded this badge of honor. To remedy this condition, criticisms were invited from all the county superintendents in Montana and adjoining states and the card that is now used resulted. While no claim has been made that the last word on the subject has been spoken, words of praise from many different teachers and leading educators have led to the conclusion that it is at least helpful to those who are planning to make their schools better from year to year.

Points To Be Considered.

I. Building.

1.	Fifteen square feet of floor space and two hundred cubic feet of air space for each pupil	2
2.	Ventilated by satisfactory system	5
3.	Ceiled or plastered and no leaks	1
4.	Paint or finish outside and inside in first-class condition	2
5.	Vestibule and good doors, furnished with locks and keys	1
6.	No broken windows	1
7.	Windows one-seventh of floor space	2
8.	Windows on left and rear of pupils only	5
9.	Windows well supplied with good shades	1

II. Equipment.

1.	Patent desks of at least three sizes	1
2.	Patent desks, if single	1
3.	Teacher's desk	1
4.	Good blackboard, fitted with chalk troughs, suitable crayon and erasers, at least 16 linear feet per room	1
5.	Ample equipment for primary work	2
6.	Library approved by county superintendent	3
7.	Framed pictures on the walls	1
8.	Suitable dictionary, maps, globes, charts, weights, measures and other appliances	1
9.	Good water supply and covered water cooler, with spigot, and individual drinking cups or sanitary bubbler, and sanitary towels	5
10.	Buildings and equipment clean and well kept	3
11.	United States Flag, not less than four by six feet	1
12.	Musical instrument, free textbooks, teacherage, and playground equipment	4

III. Grounds.

1.	Two separate sanitary closets or two clean ordinary privies	1
2.	Fenced playground of at least one acre	1
3.	Supervised play provided for (baseball, basketball, tennis, etc.)	2
4.	School-garden or trees	2
5	Condition of grounds	1
6.	Suitable supply of fuel, and shelter for fuel and horses	1

IV. Community Activity.

1.	Represented in corn-canning, or potato-club at county or state fair	4
2.	Represented by other exhibit at district, county, or state fair	4
3.	School literary society, spelling contest, or other social gathering once each week for at least three months	4
4.	Hot lunch, home-credit work, co-operation with other schools, and medical inspection	4

V. The School.

1.	Full, neat, and accurate school register	1
2.	One teacher for every 30 or fewer pupils enrolled	1
3.	All teachers with first or higher grade certificate	1
4.	Teachers retained for second year or longer	3
5.	Daily program posted in room and followed	1
6.	Teacher's manual on desk	1
7.	School visited by all trustees	3
8.	Homes of all pupils visited by teacher	3
9.	Work in seed-testing, school savings-bank, nature-study, sewing, domestic science, manual training, current events, original work by teachers or pupils, attendance averaging 90 per cent or better, and special programs for special days	10

VI. Other Good Points.

1.		8

At a meeting of the county superintendents of the state it was decided that hereafter no school should be standardized until it had all of the points that are underscored supplied, most of these being points that are covered by the law of the state, leaving it optional with the local trustees as to what other points should be emphasized, while on the back of the blank this aggressive little message is found:

Worth Considering.

1. *Do the best you can with what you have.* A little claim shack, that is clean and well-kept, where both teachers and pupils are working together in a way that creates a right school and community atmosphere, will furnish a better training for Montana boys and girls than any twenty thousand dollar building that is slovenly kept and has teachers who are satisfied with what they are and have and who have no desire or ambition to make the school and community better because of their presence.

2. *Get better grounds, buildings, and equipment as soon as you can.* There is not a school in the state that should not commence now to look forward to the time when it can wear the latest and best standard name-plate and also to that better time when the school will be the center of community interest where teachers, pupils, trustees, patrons, and friends will meet together, become better acquainted, and talk over the things that will make the grounds more beauti-

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STUDIES IN SUPERVISION

F. B. Knight, Superintendent of Schools, Danvers, Mass.

In recent issues of the Journal several articles have appeared discussing the general principles of supervision. Of especial interest was the one by Prof. George M. Baker of the University of Kentucky. These articles have set forth the essential nature of supervision, the lines upon which supervision is most needed and helpful, the several kinds of supervision and the character of the Supervisor.

It appears that descriptions of concrete pieces of supervision will be significant and logical additions to the Journal's discussion of this pertinent subject. By way of introduction it is pointed out that an effective system of supervision is what might be called the "cycle" method. A superintendent has not the time to thoroly investigate all subjects in all the grades all of the time. A good division of a superintendent's time and effort which he allots to the educational leadership of his schools is: One-half time to perpetual five-minute inspections of all different phases of the schools and one-half time to thoro investigation, correction, improvement and guidance of one section of the schools. These sections may be made up either of grades or of subjects. If the selection for intensive work is made on a basis of grades, the Superintendent will spend about half of his time for a month or so in the First grade, then in the Second, and so on. If the basis of selection is a subject, then his work will center around one subject, such as spelling or arithmetic, thru all the grades. These studies of supervision are based on the latter method of supervision.

The effective supervision of spelling must consider the following factors:

1. The adequate testing of the spelling ability of grades 3 to 8 at the time intensive supervision begins, and the intelligent interpretation of the results of this testing.

2. An analysis of the Course of Study in Spelling, to make sure that its content is correct, its allotment of work for the several grades fair, and that the arrangement of each year's work is one of increasing difficulty.

3. Thoro information concerning the classroom methods of teaching spelling, with constant comparison with the most approved methods of teaching this subject.

4. The re-testing of the spelling ability of grades three to eight after a reasonable time, to determine along which lines additional improvement and guidance is necessary.

To create a real situation, we will report, in idealized form, the concrete and intensive supervision of Spelling by the Principals and Superintendent of Danvers, Mass., during the year of 1917.

In January, 1917, the Principals' Council decided that the Principals would spend one-half of their time allotted for supervision to intensive work upon the subject of spelling. They decided to follow the procedure noted in the first part of this paragraph. Two months was allowed for this work in spelling, after which similar work in other fundamental subjects was to follow.

The first step in the intensive supervision of Spelling was to thoroly test grades three to eight. It was decided to use the Buckingham Tests. These tests are given in three sections; Section I for grades three and four, Section II for grades five and six, and Section III for grades seven and eight. Each section consists of ten sentences of which there are 50 italicized words. These words make up the tests. The words are put into sentences so as to create in the test the same conditions that are present in actual compositions. These are specimen sentences: "The *doctor made much money.* There was a *water basin* in his *large office.*" "I *found* a *handkerchief* in the *parlor, Wednesday, February* first." "The *address* by the *principal* was *extraordinary.*"

It is quite important in using standard tests for supervisory purposes to choose the right one. There are several standard tests in the fundamental studies, and the basis of selecting any one of them should rest on the following reasons: A. The test should have been given in enough systems so that dependable standards for comparison are available. B. The work involved in the test, in this case spelling, should be graded according to difficulty, and in the case of spelling should be made up of words used in the natural writing vocabulary of the children to be tested. C. The nature of the test should be such that it can be *easily* and yet correctly given. D. The structure of the test should be such that the necessary corrections and the computations of results are straightforward and clear. E. The test should be such that it can be repeatedly given so that records of the same class can be compared over a series of years. It was felt that the Buckingham Tests in Spelling satisfied all of these conditions.

The tests in Danvers were given during the second week of January. All the papers with the record sheets are kept on file. The results were as follows:

Grade III.	Class A	20 per cent
	Class B	17 per cent
	Class C	59 per cent
	Class D	20 per cent
	Class E	52 per cent
Grade IV.	Class A	44 per cent
	Class B	47 per cent
	Class C	20 per cent
	Class D	39 per cent
	Class E	59 per cent
Grade V.	Class A	64 per cent
	Class B	60 per cent
	Class C	50 per cent
	Class D	59 per cent
	Class E	50 per cent
Grade VI.	Class A	30 per cent
	Class B	83 per cent
	Class C	76 per cent
	Class D	72 per cent
	Class E	70 per cent
Grade VII.	Class A	80 per cent
	Class B	82 per cent
	Class C	75 per cent
	Class D	82 per cent
Grade VIII.	Class A	90 per cent
	Class B	83 per cent
	Class C	87 per cent
	Class D	88 per cent

The classes A, B, C, etc., do not represent classes which vary in ability because of grading, but they are separate grades in the several buildings of the system. It will be noted later on, that the 1918 scores can be quite useful in comparison with the 1917 scores in two ways: Class A, Grade IV, in the 1918 tests is the same class as Class A, Grade III, in the 1917 tests, and so on. In this way we can tell if a class is increasing in its Spelling ability. We can also compare the accomplishments of Grade IV, 1917, with those of Grade IV, 1918, etc.

These tests reveal to the Supervisor that the work was less satisfactory in the lower grades than in the upper grades and that children in the same grade thruout the town vary widely in spelling ability.

The first step in intensive supervision was testing. If a satisfactory situation had been revealed it would have been wise to redirect the time allotted to intensive supervision towards some other part of the school life. As the spelling situation revealed was not satisfactory, the second step was to patiently analyze the factors which determine spelling ability in the children.

Factor I. The Attendant Circumstances of Spelling Instruction.

The Time Allotment. It was found that there was no agreement among the different schools as to the length of time that should be devoted to the spelling lesson or to the number of lessons that should be given each week. These facts create a very simple problem. We must find out the length of time for a spelling lesson and its frequency which yields the best return. Consequently we informed ourselves as to the current practice in those systems where the Buckingham and other tests had shown that the spelling was of a high order.

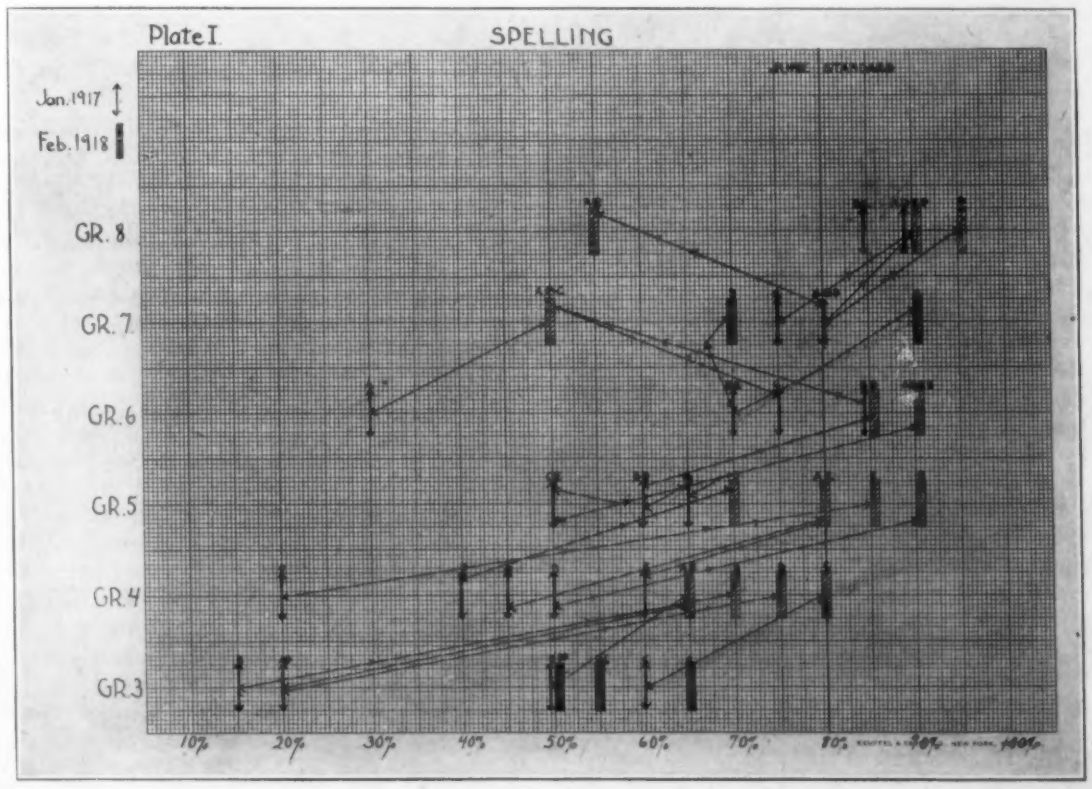


Plate I. Graphic Spelling Record Used by the Author in the Danvers Schools.

A new time allotment was issued on the basis of the information gained.

Factor II. The Method of Teaching Spelling.

A questionnaire was sent to each teacher asking her in some 20 odd questions just how spelling was taught in her room. The variation in method corresponded surprisingly with the variation in the results of the tests. Some methods were obviously good, some were quite thoughtless, some were mechanical and unbending, some had no place whatever for *teaching pupils how* to spell, some called for three new words a day, others for ten, and some were so confused that the only method was systematic avoidance of any method at all. Here constructive supervision can help in a very definite way. There are certain fundamental principles of correct instruction in spelling, and these should be present in every spelling lesson.

A series of conferences were held on methods of teaching spelling. And again we informed ourselves as to the methods used in systems where good results were being gained. Toward the end of the conferences without forcing a method upon the teachers it was very easy to decide upon a uniform method of spelling instruction.

Factor III. The Content of the Spelling Course.

The next step in our analysis of the situation was to examine the lists of words that were being used. Following this examination a thoro revision of our spelling lists was made. This list now includes as a minimum requirement the words which appear in the natural writing vocabulary of the several grades. These words have been graded according to difficulty and the harder words spotted for emphasis.

Now with a time allotment, a method, and a spelling list which are thoroly defensible and which are clearly understood by all of the teachers, intensive supervision can turn to some other subject. At the last teachers' conference it was thought wise to add to our Course of Study *definite objective standards* of spelling ability. The standards set up for each grade were "By the middle of June all pupils who are to be promoted must be able to spell 80 per cent of all the words in the year's list;" at any time during the year a class will be considered in satisfactory condition by a supervisor only when three-fourths of the class spell 80 per cent of all the words taken, up to the time of the supervisor's testing. The work noted above consumed the time the supervisors allowed for intensive work for a period of six weeks. From then on, spelling received only general supervision.

In January, 1918, the Buckingham tests were repeated. The forms of the tests remained the same. The words were changed, words of equal difficulty being substituted. What would these tests show? First, the median of each class would show how much more work that class as a whole had to do between now and June to get to the 80 per cent standard. Second, the median of any one class, compared with its median of a year ago, would show how much that class had gained in spelling ability. Third, by comparing the gains of the different classes we could determine those teachers, more especially those classes, to whom additional supervision in spelling must be given. Fourth, we could determine by the median, how ony one grade as a whole compared with that same grade a year ago. Then by studying the graphs of each class and finding the variation of spelling ability within a class, we can get some insight as to the correctness of our grading.

The records of 1918 are:

Grade III.	Class A and E	.55 per cent
	Class B	.50 per cent
	Class C	.65 per cent
	Class D	.50 per cent
Grade IV.	Class A and E	.65 per cent
	Class B	.70 per cent
	Class C	.80 per cent
	Class D	.75 per cent
Grade V.	Class A and E	.80 per cent
	Class B	.90 per cent
	Class C	.85 per cent
	Class D	.70 per cent
Grade VI.	Class A, B, C & E	.90 per cent
	Class D	.85 per cent
Grade VII.	Class A, B and C	.50 per cent
	Class D	.70 per cent
	Class E	.90 per cent
Grade VIII.	Class A and E	.55 per cent
	Class B	.95 per cent
	Class C	.90 per cent
	Class D	.85 per cent

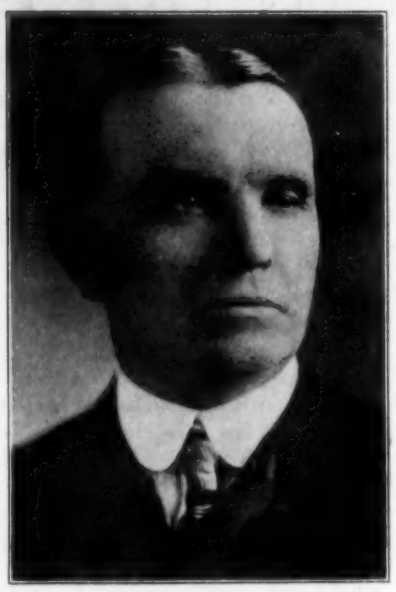
NOTE—The above percentages are approximate, each percentage being changed to the nearest zero or five.

These records are quite worth studying. Some things are evident. First: There has been a general improvement in the spelling ability. Second: Some classes are already beyond a reasonable standard of attainment. A wise supervisor, therefore, will tend to emphasize some other part of the curriculum, even at a slight expense of time to spelling. Third: there is still a wide variation of spelling ability between classes and between grades. Take for instance the Seventh grade. An alert supervisory staff will spend sufficient time to find out why classes A, B and C have a median of 50% when Class E turns in a 90%. Tests and records of the above kind should be kept year in and year out. The record is presented graphically on plate I.

Turning now to the class within itself plate II and score II gives us the record of every member of Class C, Grade VIII. Of course similar records of all other classes should be kept and studied similarly. This graph is of use for the supervisor because it shows to him that there is quite a good deal of unevenness in this grade. There are many children in this eighth grade who spell more poorly than do children in the seventh grade. This kind of evidence can start a principal or superintendent on an investigation of grading which may do his school much good. He may find that some of the pupils who are spelling with 90 to 100 ability are rather weak in some other subject. These may be excused from spelling and spend their time where it is more needed. Or taking the graphs of all the classes within a school over a series of years, a superintendent might find that in several major subjects the graph is spread out unduly, for several classes. If he is wise he will see to it that his principal keeps his classes more even in ability. Or by a study of these graphs it may be very forcibly shown to a principal that many pupils are really able to take more advanced work or vica-versa. Of course, a graph does not change the facts in the case, and if not used and studied is a fad of the most pernicious kind. But properly used, this method of recording facts will play an increasing part in expert supervision.

From the data collected above the superintendent will send out to his principals and teachers very definite and positive counsel. A type of suggestion will be made which would have been impossible had not the facts above been gained. It might also be said in passing that definite standards and graphical presentation of a pupil's standing can be used quite effectively with the pupils themselves.

In conclusion it is noted that this type of supervision is no more time-consuming nor exhausting to the supervisor than any other type which really functions. Needless to say the Buckingham tests in Spelling in 1919 will prove of great interest to the superintendent, the principals, and the teachers.



JOHN D. SHOOP,
Late Superintendent of the Chicago City Schools.

Mr. Shoop died August 9th at Rockville, Ind. The immediate cause of death was heart failure. A public tribute to him by his four assistant superintendents characterizes Mr. Shoop as follows:

"He was a man among men and those who are proud to rate him as their freind are legion. No public man in Chicago was more favorably known or more revered than he — the secret of which is that John D. Shoop loved his fellow men.

"He was a man possessing many sterling qualities, lofty ideals and splendid aspirations. There was nothing gross or sordid in his character and he abhorred everything that bore any trace of it.

"He was what the world is pleased to style a self-made man. Lincoln-like, his boyhood was full of the struggles and privations of pioneer life, which contributed much to his making. Orphaned at an early age, he was compelled to make his own way in the world, which gave him an unerring sympathy for the weak and oppressed—for those who struggle and toil."

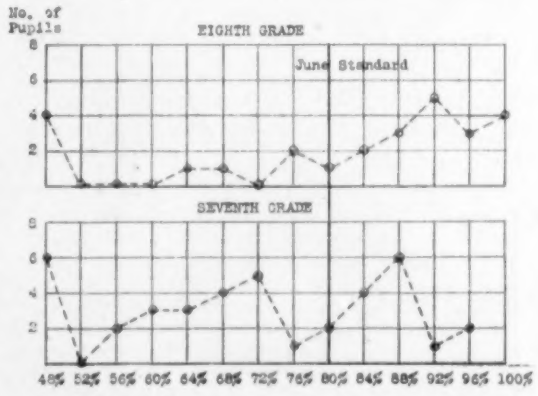


Plate II. Graph of February Spelling Record of Two Classes.
The eighth grade class is well bunched in ability. The seventh grade shows unduly large variations in spelling ability. This suggests the need of better grading.

BUSY SUPERINTENDENTS.

The British House of Commons has passed on the third and final reading of the education bill which has been discussed so widely in the American press during the past year. The bill provides for nursery schools for children under five years of age and makes education compulsory for all between the ages of five and fourteen. The law specifically prohibits the employment of children under the age of twelve and requires a system of continuation schools providing for not less than eight hours of instruction per week to children who enter employment after twelve years of age.

Janitor work in a country school in Illinois must be done by the teacher if there is no janitor hired by the school board. A decision to this effect has been handed down by the Illinois Appellate Court in the case of George E. Clark against school district No. 38 of Cass County.

Clark had been engaged at the salary of $52.50 to teach the school for a period of six months. He failed to keep the schoolroom clean and when a director protested at the condition of the room Clark knocked him down. The teacher was then discharged by the board, and pay was refused him for the balance of the term. The court held that it is the teacher's duty to clean the schoolroom and failure to do so proves his unfitness to be a teacher.

FIRE INSURANCE

R. H. Thomas, School Clerk and Business Manager, Board of Education, Portland, Oregon

Insurance is based upon the law of average, the essential features of which are practically four: 1. The existence of a known danger to which all property owners are exposed. 2. The probability that loss from this danger will not fall upon all exposed to it. 3. The assumption that when the loss occurs it will fall so heavily upon those to whom it comes that money indemnity will become a matter of great importance to them. 4. A fairly accurate knowledge of property annually destroyed by this danger, so that the insurer may calculate his risk with reasonable certainty.

Legal Authority for Insuring.

The first efforts to guarantee protection against fire may date back to the early Saxon guilds, altho I am unable to find any date that insurance was actually applied to fire risks earlier than 1609. The first recorded proposal for the establishment of a fire insurance company appears in 1635. The general application of insurance to loss by fire followed the great London fire of 1666.

There is not much case law on the subject of insurance as applied to municipal corporations, and that seems restricted to the question as to whether the city council, or school board, or its officers have any authority to place fire insurance on public buildings.

In New Jersey (66 N. J. L. 393) it is held that if the charter of a city empowers it to erect and maintain certain public buildings, the city acquires as incidental to the power that right to contract for indemnity against loss of such buildings by fire.

In 20 Indiana 543, the court held that a provision of the law placing upon a township trustee the duty of caring for and managing school property belonging to the township, granted him such implied authority in the exercise of his discretion, that he may make reasonable expenditures from the special school revenue in procuring insurance on such property against fire.

In 55 Iowa 606, the supreme court, in construing the statute that the sub-director "shall have the care and management of the schoolhouse" says: "This provision authorizes the subdirector to carry the key; keep the door locked and keep the shutter closed; provide for the cleanliness of the building, and matters of a like character. It would be an unwarranted extension of this language to hold that it empowers the sub-director to bind the district township by his contract of insurance of the schoolhouse. Neither the board of a district township nor the directors of the subdistrict have the power to bind the district by a contract for the insurance of a schoolhouse without being authorized by a vote of the electors of the district."

The same view obtains in 5 R. I. 613, altho it is held that the legal vote of the district to raise money to pay the premium would amount to a ratification of the trustees' act in insuring.

It would appear from these court decisions that school districts, like other corporations, can exercise only those functions which are specific grants to them, either by statute or vote of their constituant electorate. While the placing of fire insurance is commonly unquestioned, it is really a matter not authorized by statutes of a general nature, and is one that may demand a confirmatory expression at the polls. Whatever is lawfully done, therefore, in the line of school building insurance must be based upon specific law authorizing it, or specific vote by the supporting electorate.

Address delivered before the Association of School Accounting Officers, Rochester, May 16, 1918.

School vs. Business Building Insurance.

Insurance was originated for the benefit of trade so that as Lord Chief Justice put it, "If a merchant miscarried in one voyage he might not be ruined forever, but might be enabled to try his fortune in another voyage." Some large corporations having numerous and widely scattered properties carry their own risks. There was only one, however, of the large business institutions responding to a circular letter sent out by the writer which carried all of its own fire insurance. As I received replies to my questionnaire from railroads, mail order houses, and firms generally classed as "big business" with numerous branches over the country, I take it that the prepondering majority of industries insure their interests against loss by fire either for the benefit of creditors or for protection against extreme losses in large ventures.

Fire insurance on school buildings is never carried for the benefit of creditors. School bonds are never paid from proceeds of fire losses. As school properties do not represent assessable values, the credit of a school district would not be affected if every one of its schoolhouses should be destroyed by fire, tho it would be affected by any debt created to replace its fire losses. Indemnity to replace property lost by fire is the purpose of schoolhouse insurance and provision for some replacement is good business whether it be insurance or something else. It would have been a magnificent help to San Francisco had she been so fortified in her day of distress in 1906.

There is a marked difference between the fire hazard for commercial buildings and the fire hazard for school buildings. A business house contains practically all the assets of the firm which occupies it and is squeezed in between other buildings like sardines in a can; packed full of commodities—combustible, inflammable, and explosive; a fire risk to and from each adjacent building; many customers and, perhaps, employes, careless, irresponsible incendiary. Schoolhouses are scattered widely thruout the district, each usually in the center of an open area, surrounded by streets to the elimination of what underwriters term "exposures;" built of materials selected in the interest of safety first; occupied a short day by plastic youth without habits of cigars or matches, and whose every finger move is noted by at least one pair of watchful nose glasses.

The fire risk on schoolhouses is a good risk. Tabulation of the answers to my recent questionnaire reveals payment of premiums in the last ten years to be $871,491.34, and the insurance money from fire loss to be $738,610.93, or $132,880.41 less than premiums paid.

A reasonable cost for doing business for A-1 fire insurance companies ranges from 12.1 per cent to 52.3 per cent on premiums received. An average of 118 such companies which I tabulated is 36.1 per cent. Anything above this is profit.

Of the 33 cities responding to my questionnaire sixteen carry part or all of their own insurance, and some others would like to. In 1913, of 21 cities who responded to a similar circular, fourteen were then carrying in some form considerable of their fire risk. Five of these fourteen now carry insurance and five of those who did then do not now. I take it that these changes either way indicate the absence of a satisfactory plan of procedure four years ago. A glance at the 1913 letters to me verifies it. A glance at those recently received forcasts some future change for others—so indefinite is the plan of insurance.

The Problem of Co-Insurance.

As a public institution school business, as well as school instruction, must have the sanction of public sentiment. If this sentiment cannot be led into such channels as the business manager favors, it can certainly be crystallized into a form that is practical and stable. Public sentiment usually associates with organizations of businessmen—Chambers of Commerce, taxpayers' leagues, businessmen's clubs—any civic body well planned with a conservative membership. Before recommending any radical changes in the matter of insurance it is well to secure in writing the approval of the plan in detail by one or two of the progressive clubs of the city; and at least the permission to quote as favorable to the plan, some of the leading insurance men themselves. Such forethought saves the school board members from antagonistic "pull," insures the success of the plan without friction, and increases the co-operative support of the system.

Insurance companies usually pay small losses in full, but in anticipation of large losses they recommend co-insurance. Co-insurance may be a good thing when the hazard is great, but as a rule I do not recommend it. A slip on the amount carried and the insurance clause has worked less profitably for the insured than would a stated sum policy. For example—suppose a brick building valued at $10,000 is insured for 50 per cent of its value at a rate of $1 per hundred and suffers a fire loss of $4,200. Under a stated sum policy the premium would be $50. Under a 70 per cent co-insurance clause the rate would be 20 per cent less, and the premium would be $56; i. e. $6 would provide $2,000 more protection. If the insurance carried was $5,000, the loss would be paid in full under the stated sum policy, but under the co-insurance arrangement the loss paid would be 5/7 of the fire loss, or $3,000. That is, the owner had agreed in consideration of a lower rate, to carry insurance to 70% of the building value. In this case the owner had carried only $5,000 of the agreed $7,000 and thereby lost 2/7 of his indemnity in the day of disaster. Co-insurance always demands a high covering of building values, increases the premium, and is open to the danger just recited.

The distribution of insurance among agents is a difficult problem. It cannot be evaded and might just as well be met frankly first as last. Fire insurance agents are an agreeable, insistant, persistent lot. One sort argues that his agency is a large and old establishment, is a heavy taxpayer, has always sustained the school policies, and is entitled to some returns therefor. Another represents a new firm struggling for a business footing, is an old resident of the city, believes that in a self-governed community all citizens should be treated alike regardless of their wealth, has a large family of nine children attending the schools, and needs the money. But school insurance has its political and eleemosynary limitations. A practical distributing plan should be developed and followed. It is a good idea to place insurance business with reliable agencies only. The business manager can well make his own definition of the kind of agency with whom he will place business. A workable definition is: An agency shall be defined as a party authorized to sign policies.

Adoption of this definition at once places the old large taxpaying agency and the young enterprising one on their own merits and the merits of the companies each represents; and saves time and embarrassment in listening to unending arguments which each presents for a

share of the business. It also eliminates the broker still existent in some states.

The Placing of Insurance.

Then, too, a circular to all insurance agencies in the city, or an advertised announcement that business will be given to applying agencies only will deter some agent who might like to play up the partiality argument. This circular should ask each applying agency, to give, along with other information desired, the names of insurance companies it represents, and should fully set forth the plan upon which business will be placed. No agency should be given any business unless its license fees are paid.

The seriousness with which even politicians view insurance is noted often in their declining to make patronage of it. In order to escape possible mistakes in placing it, a single agent is sometimes given the distribution. No one agency should control this business. It always works bad feeling. It is better to handle it direct from the business office and limit the amount any one agency may write. No account should be taken of the number of companies represented by the agency. Permit the agency to distribute its quota of business according to its own wishes among such of its companies as have satisfactory funds, reputation, management, and morale.

The certification of fire companies is usually within the jurisdiction of insurance commissioners. But they must work in accordance with their state laws, and some companies which they must approve in accordance with those laws are not the best. Unless required by law to follow the approval of these officers it is well to inquire further. There are reliable rating houses who make a specialty of fire insurance companies, who do not accept advertising from them, whose investigators are mature men skilled in the analysis of data and who can and do supply a reason for what they give. I have for years held one of these houses as my standard. This house has an annual publication called Key Ratings, costing $1.00 which is compact, understandable, and contains what is termed "desirable ratings" in a usable form.

Having selected the rating authority it is well to decide which of its exhibits to adopt and which to ignore. A high loss-paying reputation by a first class management is a splendid combination. Therefore, look for these two points, insist on them, accept no lower standard, and when disaster comes the insurance money will come with it. It is to be remarked that A-1 licensed joint-stock companies insure just as cheaply as do those with lower ratings. There are mutuals which are satisfactory; indeed, made necessary because of the immense capital it would otherwise take to cover some of the giant industries of this country. But the sort of mutuals in which schools are accepted is, as a rule, very questionable.

Determining Amount of Insurance.

The question also arises as to the amount of insurance it is best to place on any one risk. This involves the points of property values, and fire hazards. Much unprofitable time can be spent on valuations. Such things as cash values, insurable values, sound values, revision of values, original costs, cost of replacement, inventories, repairs, physical life, betterments, depreciation, obsolescence, assessors, and appraisal experts, all project their theoretical and practical possibilities into the consideration. I once prepared a treatise on schoolhouse values—waded thru books and correspondence and interviews and court decisions and came to the ultimate conclusion that the simplest practical method of valuation was a straight line depreciation from original costs. Stating it arbitrarily—albeit the statement is not without merit—school buildings may be classified as lasting for a combined physical and economic life as

Wood buildings.....30 years
Brick and stone buildings.....40 years
Fireproof buildings .....50 years

Opinions vary greatly on this point, but as a general rule for insurance purposes such a standard is quite practical. This means an annual depreciation over and above repairs and ordinary betterments of 3⅓ per cent for wood buildings, 2½ per cent for brick and stone buildings, and 2 per cent for fireproof buildings. These depreciations may be charged off annually, biennially or quinquennially. This method is simple, definite, reasonable, and follows the only court decision I was able to find in point. Any extensive outlay, such as an addition to a building, can be shown and treated on the ledger as a separate building, but the insurance policies should cover original building and addition as one structure.

The plan and valuation being determined, the next step is to decide what percentage of these values it is practical to cover by insurance. I venture that the large majority of city school fires are small fires—extinguished before a building is a total loss. Furthermore, as excavations, foundations, underground pipings, and the like do not represent insurable values, it is good business to not insure for one hundred per cent of original costs, nor for original cost less depreciation. The school authorities can well afford to carry some of the risk. Buildings close to fire fighting apparatus; those of fireproof or slow burning construction; and those fairly isolated from other buildings, may justifiably carry a small percentage of insurance values. Buildings in a conflagration district should carry a greater percentage. The former might be as low as 2 per cent of ledger values and the latter as high as 60 per cent. When a small amount on large buildings is offered, some companies will decline the business, but there are others with equally good ratings which are not so arbitrary.

Rates and Means of Protection.

Policies should be for the longest period for which companies will write. The longer the term the cheaper the ultimate cost. Insurance policies should not bear just any date. A fixed day of some certain month in that part of the calendar year in which there is the least urgent demand upon the office force is the best and most economical day to adjust renewals. Agents are always glad to cancel pro rata and rewrite insurance under any date to suit the insured. If the policy term is three years, one-third of the total should expire on one certain day of each year. If the term is five years, one-fifth should expire on a set day in each year. In this way insurance requires the minimum attention at the most opportune time of the year, and the budget has a uniform annual load.

If there is any extensive insurance it is recommended that most of it be under a blanket policy. Losses thereunder seldom require but one adjuster and all agents and all companies are equally hit. A blanket policy is also a source of safety in case any of the companies may be a poor selection or hard hit, as in San Francisco in 1906, for there will be some faithful companies under the blanket who will neither fail nor accept bankruptcy. The main objection is that in small fires the bookkeeping may be disproportionately heavy.

Generally speaking, the rates on schoolhouses will be found plenty high. One of the best things to do is to ask the city council to locate a fire alarm box and at least one fire hydrant adjacent to every schoolhouse. It is money well spent for the safety of helpless childhood as well as property protection. Round up the councilmen who have children in the schools not so provided. They will do the rest. See that standpipes and hose are installed in every permanent building. Provide automatic sprinkler equipment and fireproof walls and doors for furnace rooms and fuel rooms, and sprinklered basement, manual training and cooking rooms. Examine the fire insurance data in the reports of the superintendent of public instruction. To illustrate. Oregon paid in premiums on school fire policies in the last sixteen years $411,889.77 and received in fire losses on those risks $175,128.87, or a trifle less than 40.1 cents to every dollar paid in premiums. This means that the insurance companies cleared on this business over and above their average expenses, which I have before shown to be at 36.1 per cent on the premiums written, a net $88,069.69, or an average profit of nearly 22 per cent.

With available fire hydrants, fire alarms, standpipes and hose, sprinklered basement work rooms, and facts as to schoolhouse losses in the state, there is predicted an abrupt reduction in schoolhouse insurance rates when the business manager leaves off talking to the equitable rating bureau.

So in summary if it is decided to carry fire insurance, be sure of the legal authority to do it, make no mistake as to public sentiment, include all possible of the reliable signing agencies of the city in the distribution scheme, accept policies of only the best companies, definitely fix values, and decide what percentage of those values to insure, get the longest term of blanket policy possible, and secure the minimum rates by initiating the things which count for safety. Learn the insurance game and you will increase public safety, decrease public costs, and no doubt receive proposals to enter the insurance business.

Some Fire Prevention Hints.

But there is a better way, safer, cheaper, and more convenient, which any school system providing education for children of a city of 100,000 inhabitants would do well to analyze. I refer to the assumption of the fire risk, under some practical plan, in whole or in major part by the school authorities. It has been said that the Lord takes care of children, drunkards, and the United States. Absolutely I know of no other fire protection provided for children in some schoolhouses I have visited. How many school authorities know what fire inviting plunder is in the attic? What is that unknown litter in closets, under stair exits, and in cubby holes in basements, and on top of furnaces? Where are the ashes piled? What is done over night with the collections from the waste paper baskets in which is sometimes found greasy paper and a match? Are cans with lids provided for ashes and paper? Is there a fine assessed against the janitor if he leaves the lids off? Are fire prevention instructions to janitors issued and insisted upon? Answers to these questions might develop surprises. Some kind of a chemical fire extinguisher should be in every manual training shop, and cooking department, and boiler room. A pyrene should be within reach of the hand in the moving picture booth, and dynamo room, and chemical laboratory, and fire walls should cut up the attic spaces.

I am not strong for so-called night watchmen as fire preventatives. They cost more than they are worth. Fire insurance companies allow only a paltry ten per cent premium reduction for such and they know from figures the actual value of the present type of watchmen. If watchmen are to be employed use active able-bodied men in sufficient number to really watch or else don't employ watchmen at all. Some days after I wrote this opinion I ran across the value placed upon watchman by W. E. Mallalieu, General Manager of the National Board of Fire Underwriters. In an address at New Orleans

in November, 1917, he said: "I wish respectfully to suggest that you gentlemen give early and earnest consideration to the correction of what we may well call the 'watchman evil.' I wish to raise the point as to whether each one of you may not profitably undertake to secure statistics of the watchman's service in his own state, and to formulate means for a sweeping reform of the whole absurd system." Paste these two sentences in your hat.

Any organization intelligently applying this little bunch of fire prevention hints and suggestions, and building fireproof schoolhouses, with plenty of exits, will have done much toward the elimination of the need of fire insurance. These precautions flatly stated, are more likely to be thoroly insisted upon when insurance companies do not carry the risk and the school authorities do. The responsibility for property loss and personal injury to children in a schoolhouse fire cannot be morally evaded by taking out a policy. School buildings are not fired to get insurance money. Arson is not a sin of school authorities. The same number of schoolhouses would burn annually if none of them were ever insured; yet I firmly believe there would be fewer holocausts if school systems carried their own fire risks with a realizing insistance that fire dangers must be eliminated.

Self Insurance.

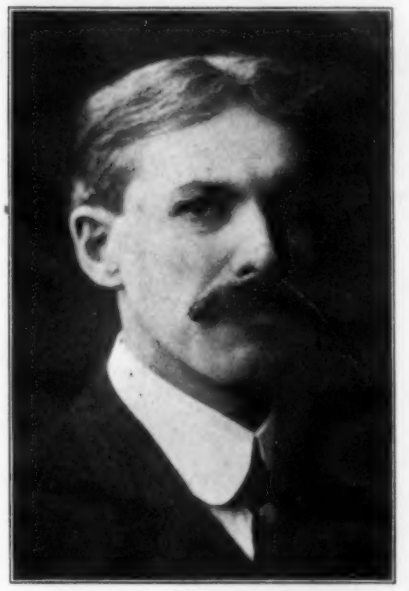
A number of years ago the Harriman railway lines carried fire insurance; of a sudden they cancelled it all. It was good business to do so. An analysis of costs revealed an excess of premiums paid over losses sustained. If fire insurance companies could carry these railway risks and make money, the railways could carry the risks and save money. The same plan was adopted by the Y. M. C. A. in this country. I have before shown that 33 large school systems have in the last ten years paid out for school fire insurance $132,880.41 in excess of losses received. The state of Oregon alone has paid out during the same time $173,715.50 in excess of losses received. Apply the same logic and the conclusion returns in the same—if fire insurance companies can carry these schoolhouse risks and make money, the school authorities can carry the risk and save money.

Adjusters are commonly agreeable regarding small fire losses on public buildings and are mostly reasonable in adjustments following severe damages—but not always. Injured property which should be promptly unearthed to prevent further injury, is not allowed to be disturbed until survey is made; technical interpretations of policy provisions are insisted upon; payment of insurance money is delayed for long weeks after proof of loss is filed; and many other disagreeable things sometimes happen at the trying time following a large fire.

Even when no fire losses are sustained, there is endless work and worry by the office force, and solicitations received from agents, and records to keep, and rates to adjust, and premiums to pay, and companies to approve, and many other inconvenient and time consuming troubles and insurance duties.

Assuming it is conceded that schoolhouse occupants will be safer, the public cost reduced, and inconveniencies lessened if insurance is carried by the school authorities, then what?

With one or two exceptions I know of no institution carrying its own risks and trusting to the Lord to prevent fire or find money for rebuilding. The Harriman lines laid aside an insurance fund—so do most others. Just the size of this fund is a matter of local opinion. It ought to be large enough to practically cover replacement of the largest fire risk, or the probable replacement desired in an extensive conflagration district should the conflagration



MR. R. H. THOMAS,
Secretary of the Board of Education, Portland, Ore.

actually occur. Until this fund reaches the sum decided upon, insurance should be carried upon these buildings in the amounts which the fund is short, so that the fund plus the insurance will total the predetermined replacement costs. This fund can be used to carry risks on buildings under contract construction. It is good business for the school authorities to carry protection on the school equity which ought to be the progressive acceptances upon which payments have been made.

No well managed enterprise would suddenly cancel a large insurance and carry its own risks without an adequate insurance fund of its own, but methods of raising this insurance fund will vary. Insurance already in force might well run until it expires by time limitation. In the meanwhile this fund may be built up to the desired amount, by setting aside annually $15,000 to $25,000 from the regular levy. Delinquent taxes might be set apart as they come in. It ought to be easy to turn into the fund the annual amounts usually paid for premiums. Other ways will suggest themselves. Any heavy fire loss which would deplete the fund might necessitate a temporary continuation or return to old line companies.

Very few states have laws authorizing these funds, but I am unable to find any case which prevents the holding of this money in the treasury. In Foote vs. Salem, 14 Allen (Mass.) 87, and other similar cases, it was held that surplus money in the treasury, not required for immediate use, may be invested until needed, at any lawful rate of interest which may be agreed upon. This seems to be good law whether the state has a statute on the subject or not.

It would seem practical then for school authorities to provide fire prevention apparatus; select fire resisting materials for building construction; establish by taxation or otherwise an instantly available interest bearing fund sufficient in amount to really indemnify, and thereafter carry their own school risks.

These facts and conclusions are not theory or opinion. Portland, Oregon has been thru it all and is now resting upon an insurance fund of $101,386.89 partially invested in bonds and increasing at the rate of $15,000 annually plus interest. It carries yet some insurance on its three largest buildings not fireproof, until the fund will be large enough to cover them also.

But in the light of our experience away out there on the far Pacific coast fire prevention is worth more than fire insurance on schoolhouses and to the human life within their walls. So look well to fire prevention and the plan of cash indemnity for property losses by fire will readily adjust itself into an approved form, safe, simple, and practical.

MAKING THE JOB OF RURAL TEACHING MORE ATTRACTIVE

Florence L. Clark

"A teacherage if not built too expensively is genuinely economical, Weld County people are finding," says A. G. Copeland, county superintendent of schools in Weld county. "Teachers can be obtained at lower wages with this attraction offered."

"In Weld county, Colorado, home of the famous Greeley potato and one of the most highly developed agricultural regions in the West, better rural schools is a live issue. Several things are being done to bring about this improvement. The building of teacherages is one that is meeting with such favor that the policy will be expanded rapidly.

Ten of these teacherages have been built the last couple of years on the grounds of Weld county rural schools and constitute an integral part of the school property. They are attractive, modern little cottages and the teachers are delighted with the idea of little homes of their own. Others will be built this year not as "needless luxuries," says Superintendent Copeland," but as necessary expedients to command better teaching service, the people having just as lawful a right to provide them as any other school necessity. "Home comforts," he says, "are as necessary as good wages if strong, self-respecting teachers are to be had. Few people realize how much the quality of their schools depends upon the comfort and contentment of the teachers. The kind of life some teachers are compelled to lead when teaching country schools is sufficient to prevent thousands of most capable people from entering the work and to drive other thousands out of it. This lack of home comforts is perhaps the chief reason why so few rural schools get first class teaching service and this unfortunate condition is sure to continue until it is effectively met and remedied by the people of the rural districts who are the chief sufferers from it."

There is the patron and parent side of boarding the teacher too, about which country residents could discourse at length. Many a farmer's wife "keeps the teacher" at a real inconvenience to herself and family. They have not the room to spare and do not relish the constant society of an outsider in the home. The teacher more often than not feels that she is being endured rather than wanted. Usually she has not a comfortable room of her own and little privacy. The children of the family are her pupils. There is truth in the old saying "Familiarity breeds contempt, and it is almost never best for either teacher or children "to see too much of each other." Is it any wonder for the reason of the boarding proposition alone that directors in many rural districts," says Superintendent Copeland, "are finding it almost impossible to get and keep teachers?"

The problem of a boarding place for the teacher had become so difficult in some of the districts of Weld county, that the teacherage idea sort of sprang into being of itself. Wherever it has been brought before a district by the directors it has met with favor. The only ques-

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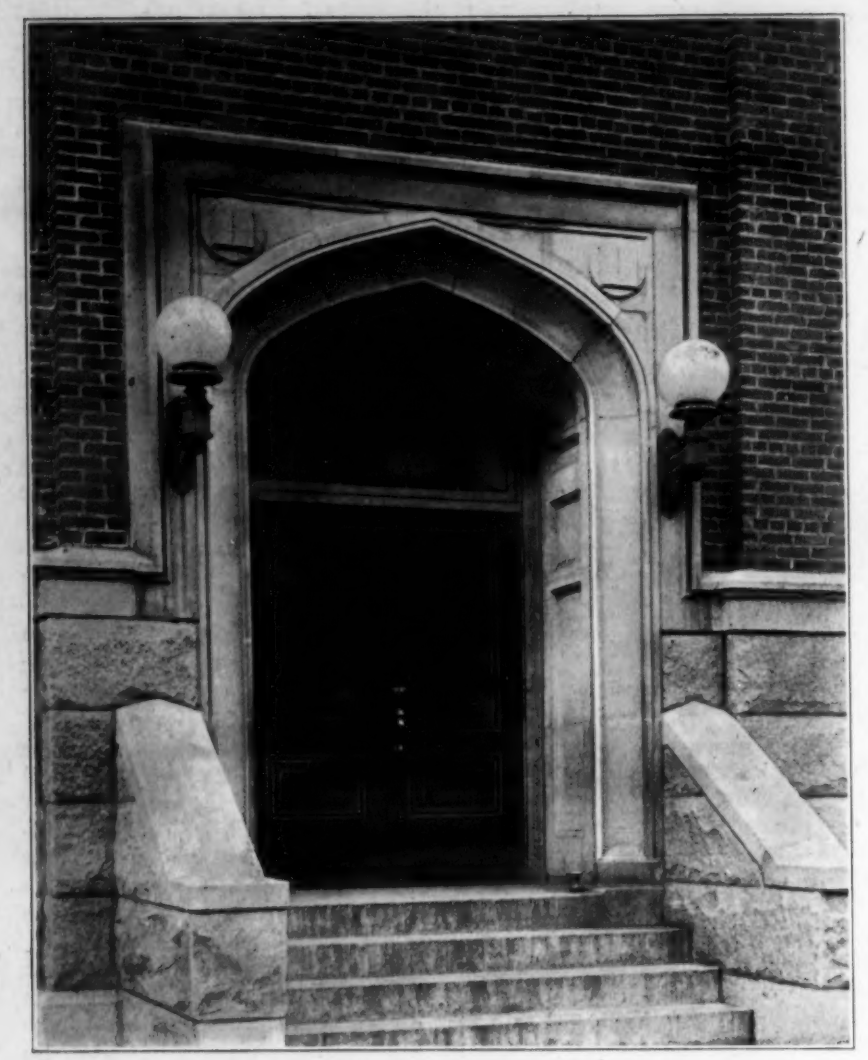
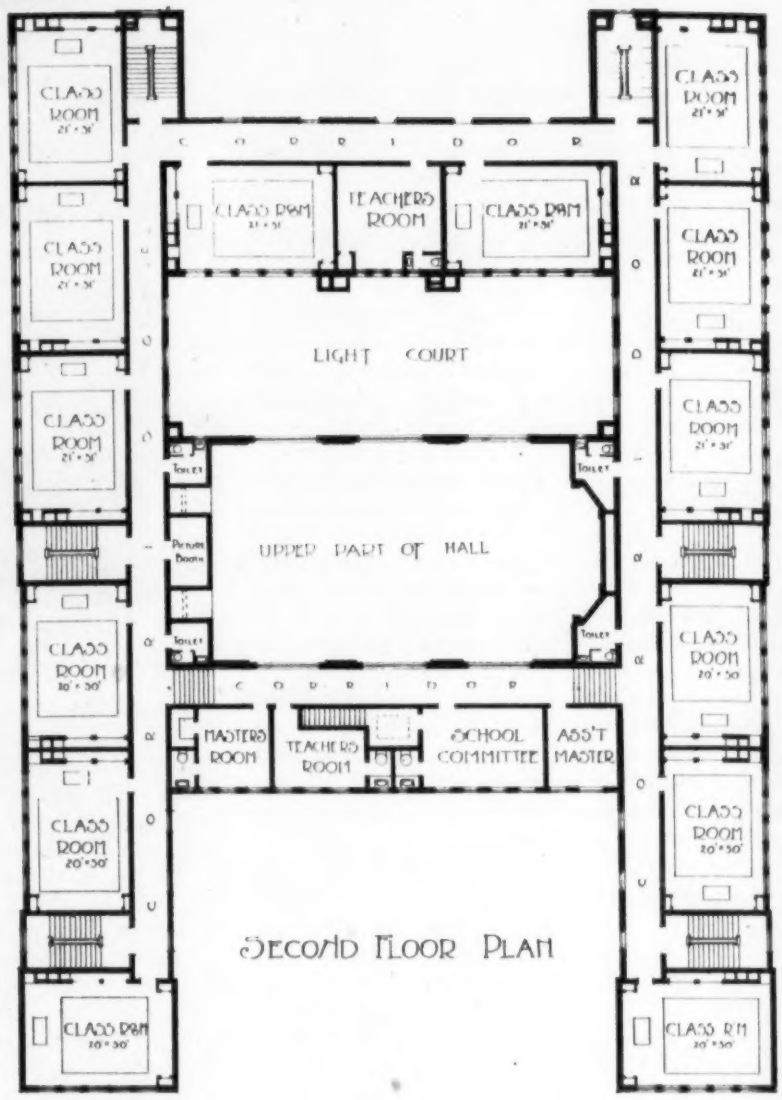
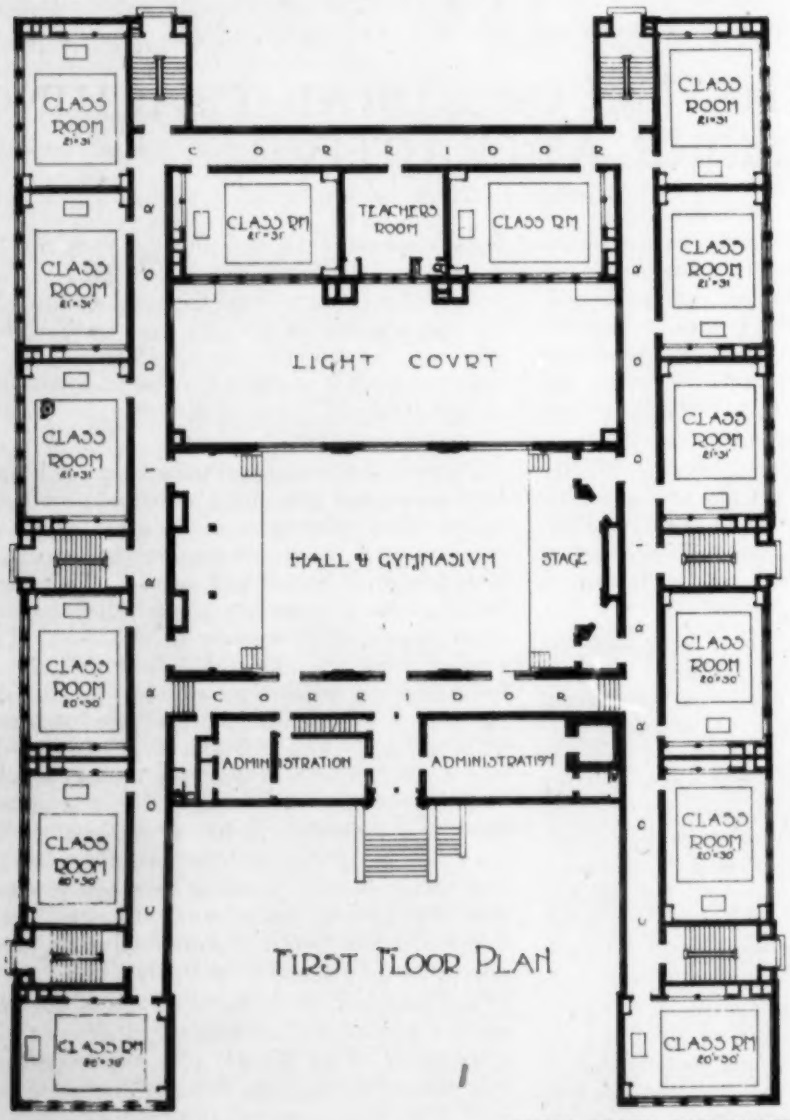
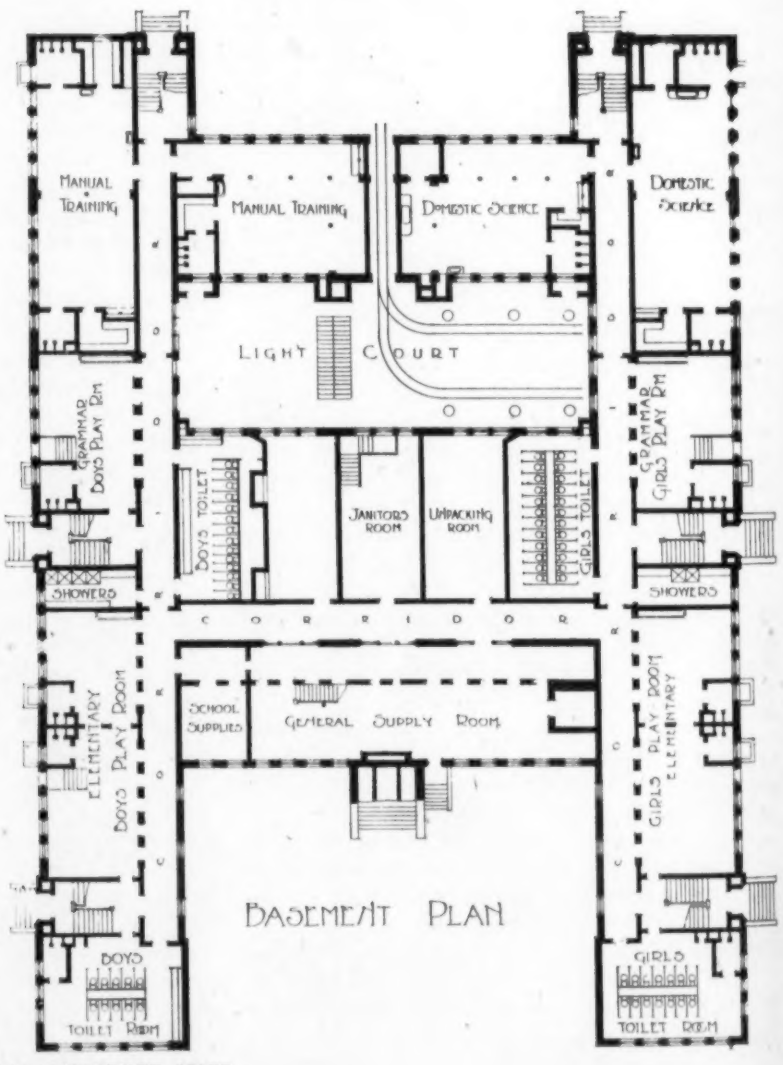


PUPILS' ENTRANCE, THE OLIVER SCHOOL.







FLOOR PLANS, THE OLIVER SCHOOL, LAWRENCE, MASS.
Mr. James E. Allen, Architect, Lawrence.

OLIVER SCHOOL, LAWRENCE, MASS.
James E. Allen, Architect, Lawrence.

ECONOMICAL SMALL SCHOOL BUILDINGS

The Work of James E. Allen, Architect, Lawrence, Mass.

In these war days when the high cost of construction and the need for conserving material and labor force themselves upon communities which require increased school accommodations, it seems particularly fitting to present in these columns a selection of very economically designed small school buildings.

The years 1917-18 have been remarkable in the field of schoolhouse construction because of the large number of small buildings which have been erected. There is at present, and there undoubtedly will continue to be great activity in small cities and villages as well as in rural districts in the construction of small buildings, ranging in size from two to six rooms. This activity is due in part to the necessity for schoolhouses in small towns and villages, to the prosperity of the rural and semi-rural sections, and to the favorable labor market which exists in places not directly affected by war work.

In the present issue are shown a number of small school buildings which illustrate splendidly the elements of planning and construction that must be taken into account by school boards who are erecting war-time schools. The buildings are the work of Mr. J. E. Allen, of Lawrence, Mass., an architect who conducts a rather small office, and who has given especial attention to schoolhouse planning. The buildings illustrated possess more than ordinary merit and show how far it is possible to go in the matter of economy of space without omitting essentials or impairing in the least educational and sanitary utility.

The average architect like other professional men, is usually loath to discuss his methods of work. His reticence is not due so much to modesty, as it is to a lack of conscious study of methods and devices, and of certainty that these methods are productive of complete efficiency and economy. Mr. Allen is one of the few who has broken away from precedents and tradition, and who has conducted his office according to his own tried plan. He speaks rather modestly of his achievement in discussing his work as a school architect. He says:

"My organization is a small one, carrying regularly only three men besides myself. Lawrence is only 25 miles from Boston where hords of schoolhouse-hungry architects keep their offices. We are not entirely engaged on school work altho we would like to be, but we are forced to design various classes of buildings including theaters, business buildings of all sorts and residences."

In the latter classification work, Mr. Allen has designed two very successful groups of working men's homes which are located in industrial communities near Lawrence where war work is being carried on.

"Our office," says Mr. Allen, "works along rather different lines than most architect's offices. I say 'our office,' because the larger part of any merit which the work possesses is contributed by the interested men and only a small part of it belongs to me. Realizing this fact, it has been my practice for some years to divide the profits of the office with the men. Some years ago I initiated this system by giving the men 2½ per cent of the net profits, and each year I have increased this bonus by 2½ per cent, until in 1917 the men received 22½ per cent of the net proceeds of the year. The system has been a source of satisfaction and has raised the standard of service which the office delivers.

"Each building is actually built in the office in every detail on paper. So thoroly is this work done before the contractors' figures are solicited, that we rarely find it necessary to make further drawings. This method entails an endless amount of work before bids are received, but it really works a saving of time over the practice of making detail drawings as the building progresses. Less time is consumed in study when details are made while the work is fresh in the mind of the designer. The system, however, is practical only when a man is able to design to a given cost. This we seem fortunately to be able to do, and the office has never designed a building to exceed the original estimate or a given appropriation.

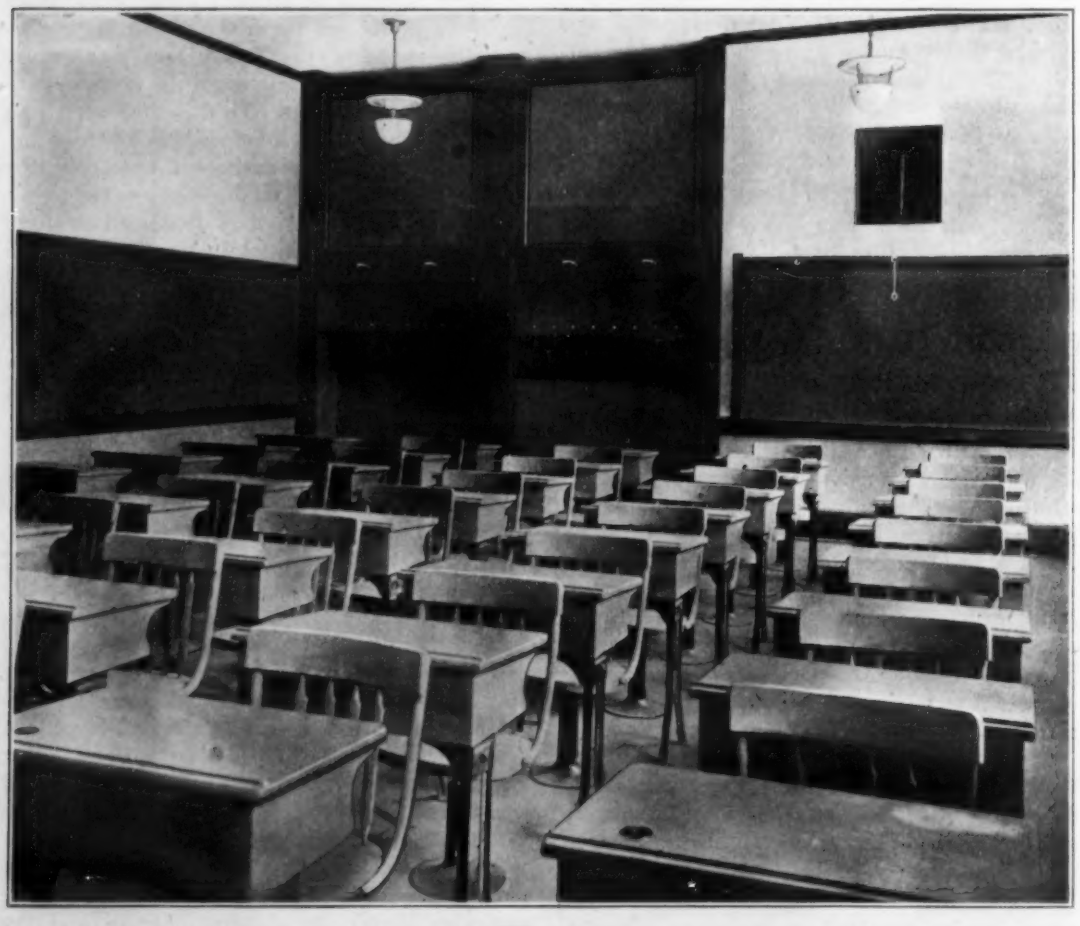
"The practice of completing plans in all details before the contract is let, possesses advantages to the owner, the architect and the contractor. To the owner it means a lower price, because the contractor knows exactly what will be required in every detail. He can consequently figure more closely, and is not obliged to leave a margin of safety for a possible extravagant solution of some detail which the architect may add. He is not obliged to anticipate incidentals to cover work not clearly shown but which may be covered by wide spreading blanket clauses in the specifications. He is able, when the plans are complete to order any part of the whole material, without waiting for further detail drawings. This last mentioned item greatly reduces the time necessary to erect a building and also lowers the interest charges and the salaries of foremen.

ASSEMBLY HALL, THE OLIVER SCHOOL, LAWRENCE, MASS.

"Complete plans mean for the architect a great simplification of supervision because no explanations are necessary and there is no opportunity for misunderstandings and disputes.

"The problem of designing an economical school building can be solved most satisfactorily by the intensive study of the architect who makes a specialty of this type of building, but the capable architect of general practice with a serious inclination for study and the determination to produce a satisfactory school, can design a commendable structure.

"This is true, first because so many really good school buildings have been erected in recent years that there is ample work for guidance, and secondly, because there is less interference in schoolhouse designing by members of school committees than there is in other types of buildings. The architect, if he is tactful can generally design a school building himself, which is rarely true of other types of buildings. The man who designs a schoolhouse badly does so because he is unacquainted with the problem and is unwilling to properly study it.

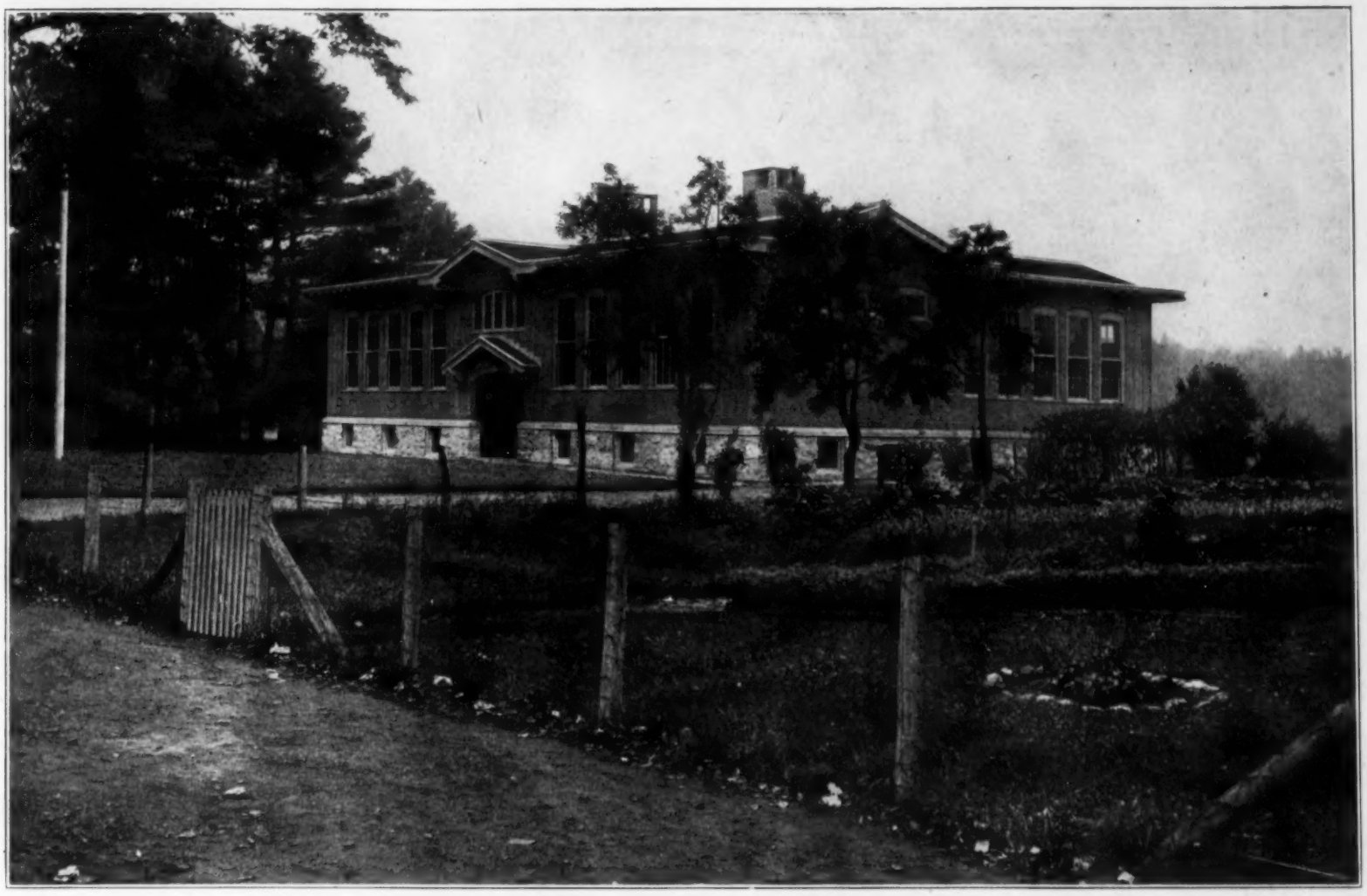


TYPICAL COAT CLOSET, THE OLIVER SCHOOL, LAWRENCE, MASS.
The sliding panels are faced with burlap to harmonize with the walls. They serve as display and bulletin boards.

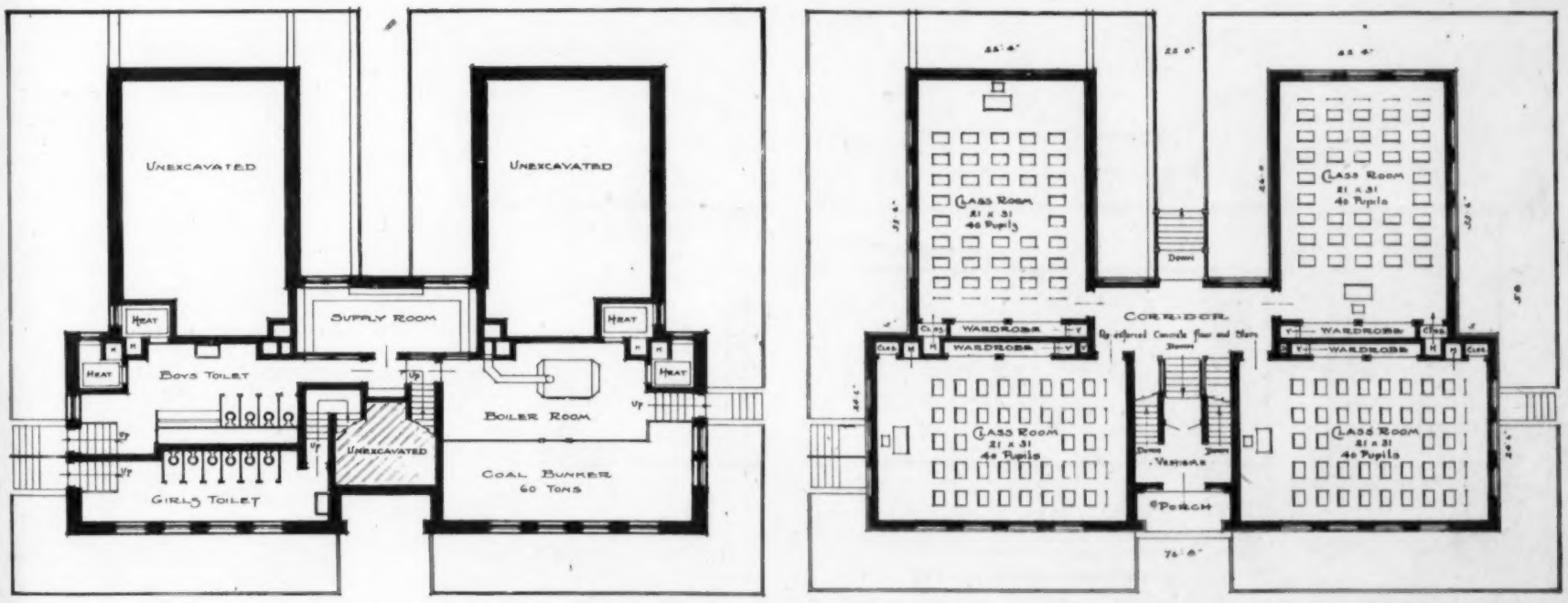
"In planning schoolhouses, there seems to be no limit to the economy of space that can be obtained by repeated study of the plan. In the designing of schools in this office, it is the practice to engage three men in competition with each other in making layouts. After each man has done his level best to obtain the most economical area, a conference is held and each layout is studied and criticized by all until a selection is made with due regard for all features of the problem. The selected scheme is then studied by each man with a view to reducing the floor areas, and it is remarkable in how many ways waste area is obviated when three interested men get at it in earnest. No layout is considered at all if the total area on the outside dimensions exceeds by more than 100 per cent the combined floor area of the classrooms. We reduce this minimum standard considerably before we have a really economical layout. In fact, we have designed some buildings in which the classroom area has been as high as 70 per cent of the total area of the building.

"To put it in another way, we consider that no plan is economical which contains more than 600 cubic feet of building per pupil. By using this standard of economy in our first studies, we seek to reduce the cube in every way possible without affecting the essentials or the utility of the building. We endeavor to design within a cube as low as 500 cubic feet per pupil and in buildings which have no assembly hall, we have lowered this minimum.

"While in a measure it is true that buildings cost in proportion to their cubic contents and it



CHRISTOPHER SARGENT SCHOOL, METHUEN, MASS.
James E. Allen, Architect, Lawrence, Mass.



BASEMENT AND FIRST FLOOR PLANS, CHRISTOPHER SARGENT SCHOOL, METHUEN, MASS.

is good practice, to plan for a low cube, we find that a good method for checking figures is to reduce cost to the per pupil basis. We have found in our work that cubic foot costs vary widely, depending upon the economy or the minimum of extravagance of our plan as related to the cube per pupil.

"In work covering the period from 1910-1916, our cubic foot cost for small brick buildings of superior fire resisting construction, has varied from 18.8 cents to 21.3 cents.

"Despite these variations the cost per pupil has remained approximately constant at about $100 per child. The buildings have been without assembly halls. To illustrate, I may mention a group of buildings of the same construction erected about the same time in the same town, Methuen, Mass. The Pleasant Valley School contains 478 cubic feet per pupil and cost 21.3 cents per cubic foot or $102.03 per pupil. The Ashford Street School contains 554 cubic feet per pupil and cost 18.3 cents per cubic foot, or $102.27 per pupil, and the Christopher Sargent School contains 493 cubic feet erected at a cost of 21.4 cents per foot, or $105.70 per pupil. These figures illustrate quite clearly that extreme economy of cube does not necessarily reduce the per pupil cost which is after all the real measure of cost.

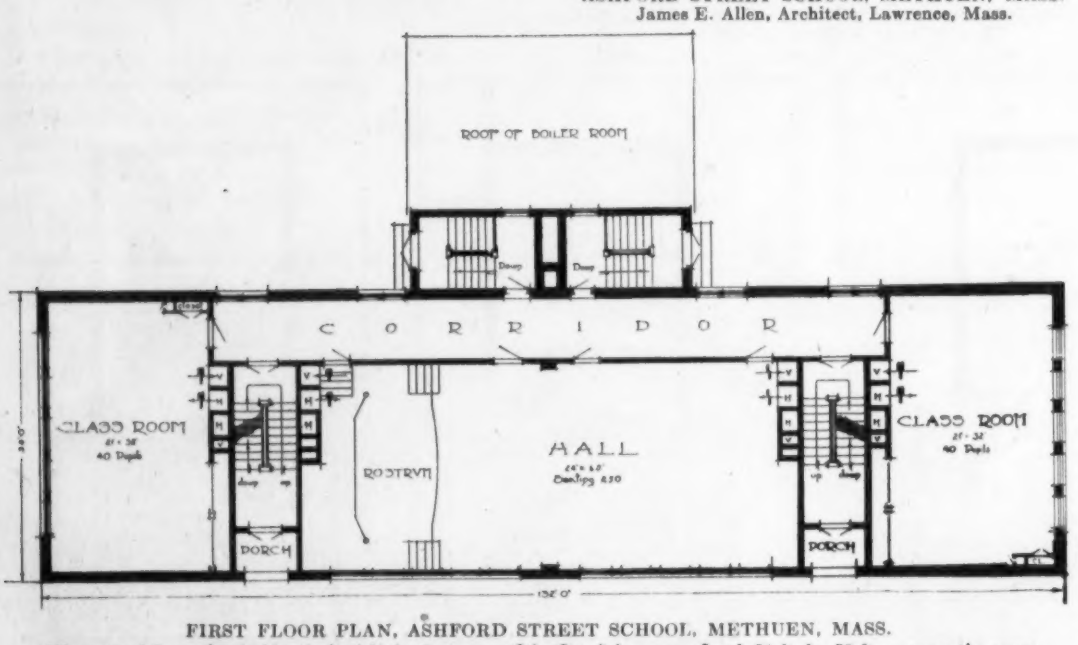
"It is true economy to plan for low cubes. Materials are thereby conserved and economical up-keep is made possible. Heating is reduced in cost and janitor service is cheapened in cities where the janitors are paid on the basis of cubic content or floor area."

The accompanying illustrations are taken from recent work of Mr. Allen. They illustrate one large building designed by him, and a number of small structures of the type in which he has specialized during the past few years. The very brief notes which follow, will give a clue to the character of the structures.

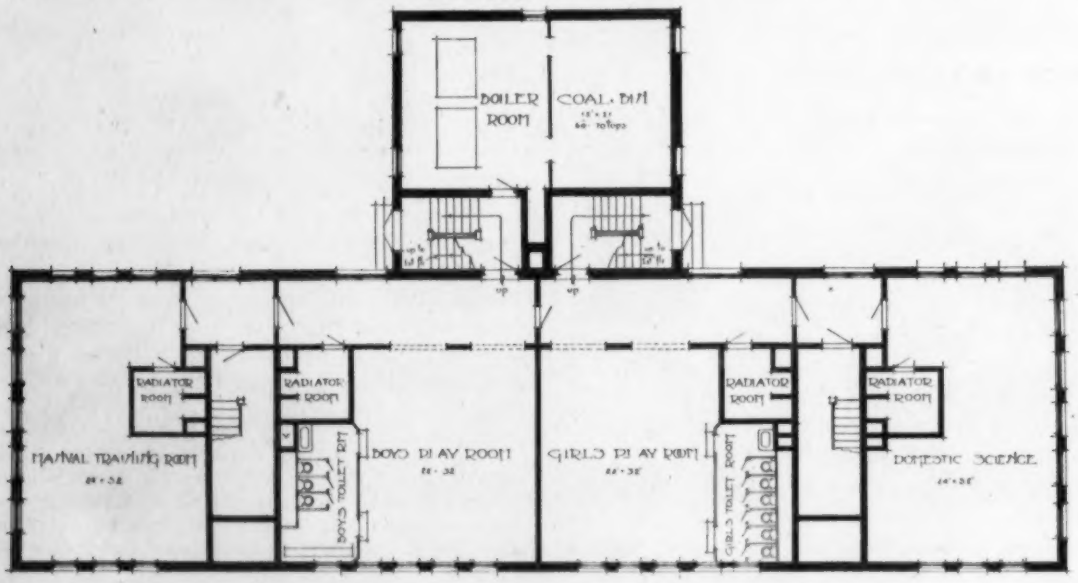
The Pleasant Valley School.

The Pleasant Valley School was designed for safety against fire and for economy of up-keep. The walls and partitions are all of masonry; the floor and roof are of mill construction. All inside walls and partitions expose light finished

ASHFORD STREET SCHOOL, METHUEN, MASS.
James E. Allen, Architect, Lawrence, Mass.



FIRST FLOOR PLAN, ASHFORD STREET SCHOOL, METHUEN, MASS.
(The second floor plan is identical with the first except that two classrooms, each 24 ft. by 29 ft., occupy the space corresponding to the assemby hall.)



BASEMENT PLAN, ASHFORD STREET SCHOOL, METHUEN, MASS.

brick work. No plastering has been used in the building except on the ceilings.

The plan is ingenious. The stairway arrangements are such as to give each room ready egress to either stairway. The plan is remarkably economical as will be understood when it is said that the building represents only 478 cubic feet per child.

The building was erected in 1914 at a cost of $16,325. Including the building and the furniture it represents an outlay of 21.3 cents per cubic foot or $102.03 per child.

Christopher Sargent School.

This attractive one-story building contains four rooms and was designed with especial reference to safety. The walls and partitions are of brick and the inside plastering is applied directly to the brick work without furring or lathing. The walls of the corridors and stairway are laid up in finished brick and left without plastering. The floors are of mill construction except the corridor floor which is of re-enforced concrete.

The exterior walls are of tapestry brick laid with wide joints. Some pattern work is introduced to obviate the monotony of the blank walls and to relieve the simplicity of the building. The roof covering is of the regular tar and gravel type, except that in place of slag and gravel, broken red bricks have been used. This is perfectly practical for a roof of not less than three inches pitch to the foot, and makes a most attractive, colored roof.

The building is very economical in cubic contents, containing only 493 cubic feet per pupil. It was built in 1916 in a building market of considerably above the normal, and cost complete with furniture, $16,918. It represents an outlay of 21.4 cents per cubic foot or $105.75 per pupil. pupil.

Grosvenors Corner School.

This attractive two-room frame country schoolhouse is of economical design. It is painted white and has a tar and gravel roof in the construction of which broken red bricks were used in place of roofing gravel.

The building was built in 1918 at a total cost, including furniture, of $7,560, which represents a cubic foot cost of 14.4 cents and a pupil cost of $94.50. It contains 657 cubic feet per pupil.

Ashford Street School.

This building was designed for eight classrooms—four to seat 40 and four to seat 42 pupils—a manual training room, a domestic science room and the necessary toilets and boiler rooms.

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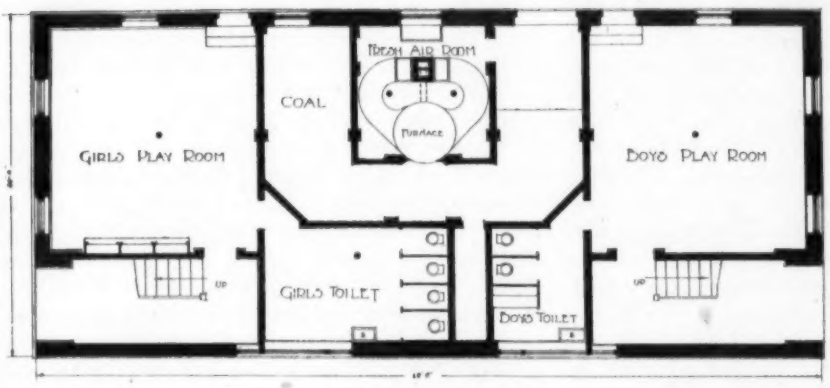
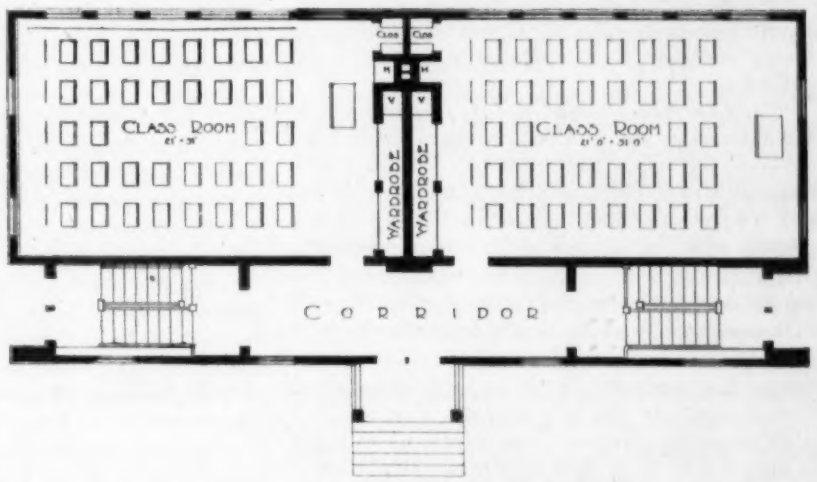
GROSVENOR'S CORNER SCHOOL, METHUEN, MASS.
James E. Allen, Architect.

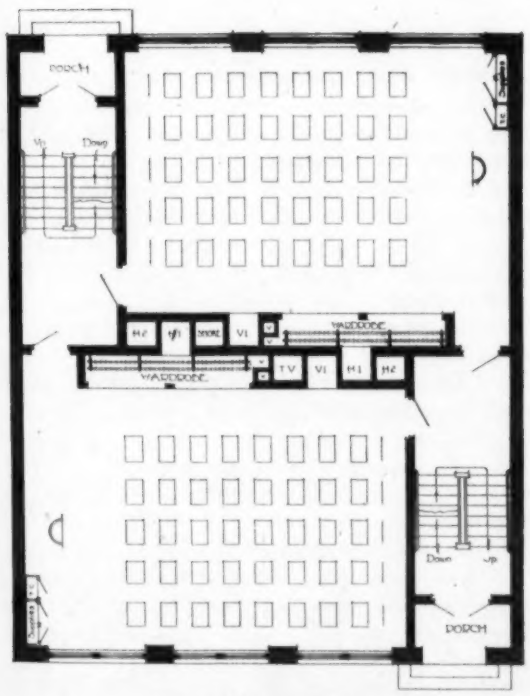


BASEMENT PLAN

FLOOR PLANS OF THE GROSVENOR'S CORNER SCHOOL, METHUEN, MASS.
James E. Allen, Architect, Lawrence, Mass.

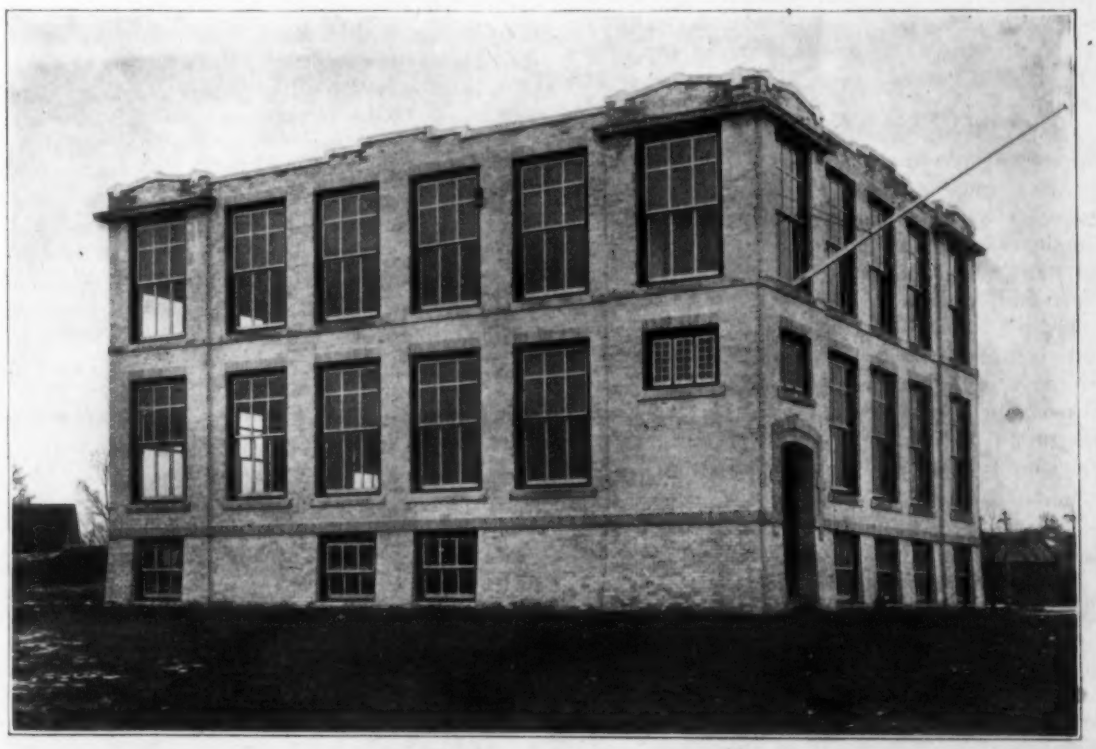


FIRST FLOOR PLAN



FIRST FLOOR PLAN

Pleasant Valley School, Methuen, Mass.



PLEASANT VALLEY SCHOOL, METHUEN, MASS.
James E. Allen, Lawrence, Mass.

THE AMERICAN
School Board Journal
DEVOTED TO
Legislative and Executive School Officials
WILLIAM C. BRUCE, Editor

EDITORIAL

A FAIR DEAL FOR JANITORS.

During the past year the educational press has been filled with discussions of the problem of higher pay for teachers, but we have not seen a single word concerning the janitors. So, too, school board reports have dwelt upon elaborate schedules for teachers and principals, but very scant attention has been given to the men who heat and ventilate and clean the schoolhouses and who are responsible for much of the physical well being of the children and teachers.

As an essential part of the school machine, the janitor deserves as much consideration as the teacher in the matter of wage increases. He is usually a man of family and the high cost of living due to the war has struck him a harder blow than the schoolma'am who has only herself to provide for. He is frequently making a money sacrifice in not entering some other occupation.

We believe that school boards should readjust the salaries of janitors on a humanitarian basis as well as upon the basis of the economic changes which have been brought about by the war. It is essential for the well being of the schools that the janitor shall receive sufficient compensation to maintain a fair standard of living in accordance with present day conditions. Increases may well be based upon the present high cost of living which is continually rising, and further revisions should be anticipated from time to time as the cost of food, clothing and other necessities grows. The janitor has a right to expect that there shall be a reasonable margin of safety between his income and his necessary outlay and that this margin shall not be destroyed during the war. In fact it is not unreasonable for him to demand that he shall have sufficient surplus to do his share in supporting liberty loan issues and to purchase war savings stamps, etc.

It is difficult for school boards to raise the wages of janitors and school engineers on exactly the economic terms which manufacturers and sellers of merchandise use in dealing with their employes. The latter adjust the compensation of wage earners to the value of what they produce and even the non productive men are dealt with in a large degree on this basis. The law of supply and demand for labor also enters very strongly into the considerations. Janitors and school engineers are not producers; in fact, all the products of the school which are human and spiritual can rarely if ever be measured.

These facts must be kept in mind by boards of education and while the law of supply and demand will undoubtedly be a strong factor, we believe that humanitarian principles should ultimately control. The school is a social institution and it will defeat its own end as a means of social betterment if its employes cannot maintain themselves according to a reasonable standard of living based upon good social conditions. Any other situation would be anomalous.

The school can do like the business man does, pay janitors sufficient to guarantee a standard of living when he earns it. There is no doubt but what the janitor renders a sufficiently large service as compared to that rendered by men in similar occupations, with similar responsibility in industrial and commercial establishments.

The janitor certainly deserves a square deal on the part of the school board during these trying times. He is none the less a soldier of the common good because he performs his work in a modest, obscure manner.

BLAMING THE SCHOOL BOARD.

An eastern contemporary in discussing the cause of the present shortage of teachers lays the chief blame for the situation upon "the hiring and firing bodies." It argues that teachers and superintendents are leaving the profession because of the uncertainty and injustice to which they are subjected at the hands of those who employ them.

We are more than inclined to the view that the present shortage is largely beyond the control of school boards, college regents or superintendents. The war has drawn thousands into various branches of national service, and the shortage of skilled labor in every industry has taken the bulk of the teachers who have left the classrooms. Neither of these causes could be prevented by school authorities even if they offered higher wages or permanent tenure of office.

It is our experience that ninety-five, or more, out of every one-hundred teachers and superintendents who are "fired" lose their positions for reasons that are fully adequate and just. Incompetence, temperamental unfitness and insubordination are the three outstanding causes that lead teachers to unemployment. Naturally those who are discharged are bitter against the profession and against boards of education. The incompetent workman always blames his tools and his foreman for his troubles. The teacher who is dismissed never appreciates her own little indiscretions, her fault in the disagreements with fellow teachers and parents, her failure to cooperate. The superintendent doesn't understand that he must always be tactful as well as straightforward, that promises must not be made which cannot be kept, that professional conceit is silly and that his position demands a man of affairs and of force enough to—in the language of the day—"puts things over." Such persons speak of politics and prejudice among school board members. They wail about the men who may be engaged in small trade, who may not be college, or even high school graduates, who may belong to some church or other. They seek any irrelevant cause to explain what they are personally to blame for.

Teaching as a profession is harmed by such disgruntled and unsuccessful people. The pity is that their cry is too often taken up by their colleagues whose sympathy is greater than their knowledge of the true condition. Such complaints should stop as they help no one and they do an injustice to boards of education.

DEATH OF MR. SHOOP.

John D. Shoop died as might be expected—in the harness. His physical organism broke under the strain to which he was subjected in the constant battle that is waged against the superintendent of the Chicago city schools.

Superintendent Shoop owed his professional success entirely to the forcefulness of his personality, to his ability for hard work and to his sound common sense in dealing with men and conditions. He began teaching in the Ohio country schools at the age of twenty and passed thru the successive grades of principal, and superintendent in Ohio and Illinois towns until 1901 he entered the Chicago schools as a district superintendent. In 1909 he was chosen by Mrs. Ella Flagg Young as assistant superintendent and until her retirement he carried much of the load of directing the elementary schools. On December 8, 1915, he was elected to succeed Mrs. Young.

Mr. Shoop's superintendency during the past two and a half years covered the stormiest period in the history of the Chicago schools. It is necessary only to recall the reorganization of the board of education under the Thompson regime and the subsequent fights between the "solid six" and the Loeb faction to understand that his position was not a bed of roses. Just a week before his death the political fight and the litigation over the taking of the school census caused him no end of worry. As in the case of his predecessors every difficulty and every trouble, large or small, eddied around him. It is therefore no wonder that he broke down under the strain.

Mr. Shoop's untimely death recalls anew the need for protecting the superintendent of schools in the large city from the harassing influences of partisanship and so far as possible from the minor problems and details of the school administration. We have frequently pointed out that the superintendent stands in the center of a circle thru which pass the opposing currents of personal, professional and even financial interests of parents, teachers, pupils, the press and the general public. He is responsible for general educational policies and for the thousand and one professional minutiae of the curriculum, the teaching corps and the school service. From him is expected the initiative and the final decision in every important advance made by the schools and in every troublesome situation. He works constantly in the glare of pitiless publicity, and it is expected that he shall conserve the public good at all times—the welfare of the children no matter how many enemies he makes.

It should be considered a duty and a privilege on the part of school board members to "stand by" the superintendent and to give him every assistance and support in every reasonable and necessary matter. Such support is really a constructive service to the schools for it permits the superintendent to devote himself to solving problems which advance the schools and prevents him from dissipating his energies and his time in fighting off persons and projects which are harmful.

A NEW SCHOOL BOARD FOR ATLANTA.

The ancient who first noted the fact that there is nothing so bad but some good comes from it certainly never heard of the Atlanta schools. But his thought is as applicable to the situation in the capital city of Georgia as if he had lived thru the recent school troubles.

The Atlanta schools have suffered from councilmanic interference for many years just as the schools all suffer in cities where they are reduced to the level of a city department and are subject to the financial and political hazards of shifting administrations. There was probably some cause for the recent investigation which the Atlanta city council made into the affairs of the school board. Judging at a distance the investigation was conducted in a businesslike and dignified manner, and it was probably justified under the law which made the board of education subject to the council.

From the standpoint of the general principle in school administration that city schools are agencies of the state and school boards are local representatives of the state government there was much to criticize in the Atlanta situation during the past five years. It is certain that an investigation such as was held could never have taken place if politics had not ruled and if the school board had been recognized for what it

should have been in authority and responsibility. It is certain too that members of the teaching staff would not have been insubordinate to the superintendent or that the president of the board would have found it necessary to adopt a more or less dictatorical attitude toward the members of the teaching and supervisory corps.

Out of the entire complication of troubles has, however, come some splendid good. A charter amendment has been passed by which the Atlanta board of education is to consist of five members elected at large by the voters of the city, with the exception of the president who is to be ex-officio the mayor of the city. The board is to be assured of an adequate financial income thru general taxation and is to be independent in the management of the schools and in the disposition of its funds.

While the board will not be ideal in some of the details provided by the law the advance over the former situation is most gratifying and commendable. It should now be possible for the board to lay down a progressive program of administration and to see that it is carried out with the assistance of the superintendent and the teachers. The Atlanta schools should shortly enter upon a most profitable period of growth and progress. Above all, politics will disappear as a factor in the school situation.

THE SCHOOL BOARD IS SUPREME.

On another page of this issue is printed a statement prepared by the Louisville Board of Education to explain a controversy which has existed between the members of the board and the city superintendent of schools. It was not our purpose to discuss the merit of the board's action in refusing to affirm the nomination of the superintendent. It should rather be said here that the board acted logically and absolutely within its rights in refusing to accept a nomination which a study of all the surrounding circumstances seemed to make the candidate impossible.

There is a prevailing notion among some educators that boards of education should accept their nominations without exception and that the faculty of the entire school system should be made up of persons who are wholly acceptable to the superintendent.

The school laws do not take this view of the relations between the superintendent and the school board. They very wisely provide that the superintendent shall have the power to nominate or appoint his colleagues, but that the board of education as the legal representative of the community, shall have the power to reject such names as appear to be undesirable.

The Louisville Board makes its position in this matter very clear. It has refrained from making its own nominations and appointments and has left it with the superintendent to select an acceptable person. The Louisville situation is a pleasing contrast to the usual performance which is engaged in by members of school boards when they disagree with a superintendent of schools.

The members have stood fully with what they believed to be right, but have left to the superintendent his professional privilege of initiative so that whatever the outcome may be, he will retain his self-respect and the respect of his subordinates. The board on its part has insisted on its legal duty and has performed it manfully.

SCHOOLS SHOULD HELP.

The Fourth Liberty Loan will be launched the latter part of September. The issue, it is expected, will be Six Billions of Dollars.

While the sum is enormous, the task of raising it will be easy, provided all help.

The schools can render a service by enlisting their forces in the campaign. Let school board members, not only encourage teachers and older high school students to buy, but let every child become an active salesman, or at least a propagandist for the bonds.

It is a patriotic duty for the schools to do their utmost.

TEMPORARY SCHOOLHOUSING.

The action of the Capital Issues Committee in refusing to approve bond issues for schoolhouse construction has left a number of boards of education with the most difficult problem of finding means for temporary housing. San Francisco, for example, has had a request for four hundred thousand dollars cut to less than fifty thousand—sufficient to erect temporary one-story structures.

It is our belief that school boards which are thus embarrassed should apply themselves to the problem of so erecting the temporary buildings that they can be converted into more or less permanent plants at a very small expenditure. Mr. Herbert Eicher, building expert of the Pennsylvania State Board of Education, has worked out plans for several types of buildings which are thus convertible. By a system of simplification and elimination of structural features and by the use of materials that are efficient for a year or two—and are correspondingly cheap—he has produced plans that promise comfortable, sanitary and educationally efficient buildings. By wise foresight it will be possible to add to the strength and weather resisting qualities of these buildings so that they will last for many years.

It is our belief that in smaller communities, away from the industrial centers, needed permanent schools can be erected without any demand on facilities or labor needed in the prosecution of the war. But in the large centers temporary buildings will undoubtedly be needed. School boards may well set their architects at work to make these temporary buildings of the convertible type—to study the plans so that they may conform with local laws, local building material and labor markets, and local educational needs and opportunities.

The government itself is not neglecting the problem of an adequate school plant in the new shipbuilding and munitions towns. The plans for these are almost without exception for structures of an economical but permanent type.

FORESIGHT IN SCHOOL ADMINISTRATION.

Why is it that a man will buy automobile insurance after his car has been stolen, that a city will pass drastic building laws after a disastrous fire and that a nation will undertake extensive defense measures after it has entered unprepared upon a war? Since the first barn was built man has locked the door only after his horse has been stolen.

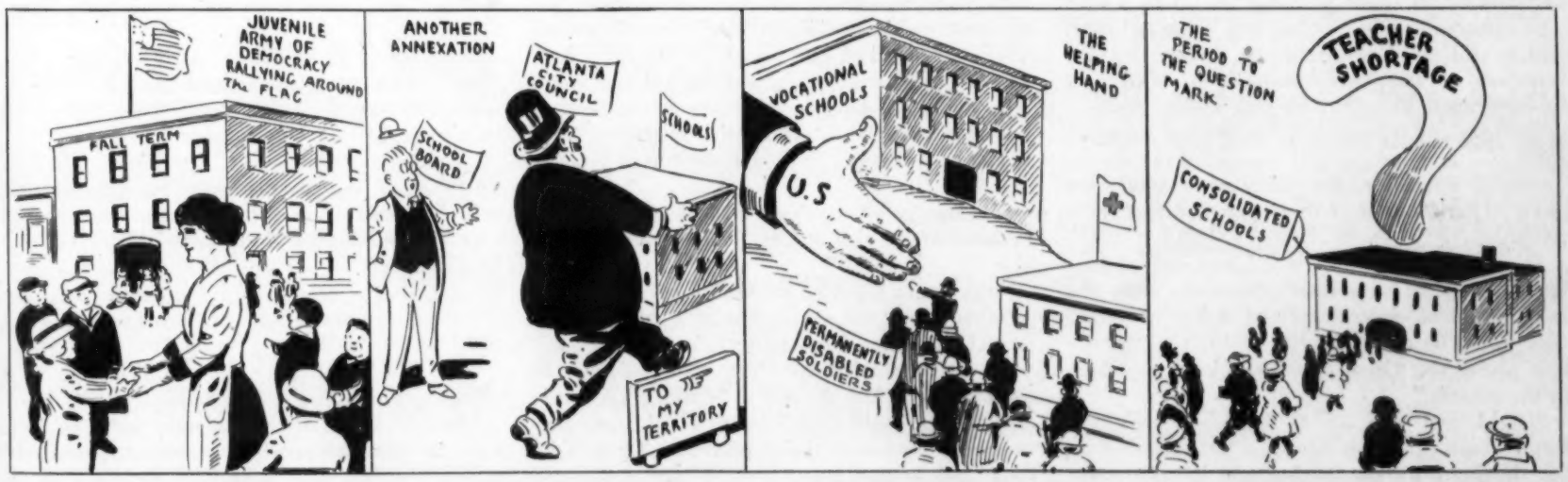
School executives exhibit this same kink when they refuse recognition to a teacher until some visiting school man comes along, sees the value of a young woman's methods and the results of her inspiring work, and hires her for a much better position. School boards on their part will permit a superintendent to work along for years with a minimum or no increase in salary, until the neighboring large city invites him to a large executive office with corresponding high pay. The real irony of the situation however is not revealed until the first board in casting about for a successor is forced to raise its pay limit to make possible a contract with a man of equal ability, but generally less experience.

Lack of appreciation of personal services of teachers and higher school executives is only one form of insufficient foresight which school boards display. This discussion might easily be extended to include the careless attitude toward professional recommendations of the superintendent and his associates, unwise financing of school districts, insufficient provisions for enlargement and replacement of the school plant, etc.

A remedy is hard to suggest unless it be found in the calibre of the men who constitute school boards, for men who are unprogressive in public administration are similarly improvident and careless in their personal affairs. They are not fully fit to hold office and they should be replaced.

The true purpose of education is to cherish and unfold the seeds of immortality already sown within us.—Mrs. Jameson.

Modern education too often covers the fingers with rings, and at the same time cuts the sinews at the wrist.—Earl of Sterling.



The Schools Reopen. An Annexation that Failed. Uncle Sam Opens Hospital Schools. A Solution for the Teacher Shortage.

Getting Rid of Sarah McBride

P. E. McClenahan

The Kisor board of education and Superintendent Gryce sat around the big table in the law office of the secretary. It was one of those still, hot nights in June, that gives the corn in the Mississippi valley states a good start. The close of the school year and the necessity of cleaning up odds and ends of official business had ostensibly brought the five men from their dark, cool porches, into the hot office with its blazing white lights. The buzz of a big fly mingled with the monotone of the secretary as he drawled along slowly with the reading of minutes and accounts. The five men, who sat in various attitudes of discomfort around the table paid scant attention. They knew that the real business of the evening should come last: the discharge of Sarah McBride, a teacher of whom Gryce had frequently complained.

"I wonder what keeps Hi? He's generally on time." The president injected into the secretary's reading the question that was in each man's mind.

Burr—bur-r-r—bur-r-r went the telephone, before anyone could answer. The secretary reached for the instrument.

"Hello!—Yes!—What!—You don't say!—Congratulations!

"Sarah McBride and Hiram Bennett are married."

"What are you giving us?" came in a chorus.

"It's a fact. Hiram just asked me to be excused from the meeting."

The secretary took up his pen ready for further business. The members glanced at one another, and then at the superintendent. They leaned back in their chairs and each gave his peculiar kind of laugh.

"Well that settles our teacher problem," gasped John Carr, whose round body shook with the merriment that seems peculiarly possible only to a fat man.

The secretary grinned and went on pretending to copy his minutes. Johnson, the grocer, closed one eye, and just silently nodded his head, as if to keep time with his reverie. Peters vigorously chewed the stub of his cigar. Gryce apparently heard and saw nothing, but looked steadily out of the window.

"Professor, you've had all your trouble for nothing," roared John Clark. "Here you've fumed and tore your hair about that little old gal, who never had a chance when she was of the proper age. Now when you think she's lost all hope, cupid comes along and shoots an arrow under her left slat. And Hi Bennett has the only balm that will cure her wound."

The shock was too great for Gryce. All year he had heard the cry of the children whom he had felt were being robbed of their educational heritage by the poor teaching in Room Three. The solution of the problem had come too easy, and he did not feel any of the elation that the members of the board seemed to enjoy. It dawned upon him that he had a new problem before him and it made him serious and thoughtful.

"Well! Professor, does this news make you sad?" Clark looked at the superintendent for a reply.

"No," said Gryce slowly, "I was only thinking, if a lot of superintendents, who have the same problem, just knew the value of cupid they would be more cheerful and not so restrictive about the visits of school board members to the schools."

"Right you are, or at least seven-eighths right," broke in Josh Smith. "Often a fellow has the jump on the teacher and he wants her to dance to his music, when maybe his music doesn't track with her feet. Teachers ought to have some independence in their work."

Smith evidently thought it was time for him to make a little plea for the teachers, as he was expecting to be a candidate for councilman at the next election.

"A good superintendent doesn't want to think for his teachers," countered Gryce. "All he wants is co-operation, harmony, and real educational results."

"Mr. President! I make a motion," interrupted Clark. The board was all attention. "Well, I hardly know how to state it, but I will give the facts to the secretary and he can put them into the right form.

"I move that every new member of this board be a widower or bachelor; and be it understood, that he is ready and anxious to fall into cupid's net." Clark laughed heartily as he completed his motion.

"I want to add an amendment," said Peters grinning. "The new member shall take the first teacher the superintendent recommends for dismissal. He shall take her at once and ask no questions."

All these motions are accepted unanimously without a vote," said the president. "Now let us get down to business."

He turned to Gryce who was so serious that he seemed to be scowling. Here was a vacancy that he was not ready to fill. He knew if he put the matter off he would be tormented with applicants, that parents would be visiting him, and that the businessmen and the members of the board would be speaking for their friends. He knew that every local pull would be put into operation and he wanted to exercise his professional initiative before the town began to buzz. While he was still meditating Clark spoke:

"Had we better fill the vacancy tonight?"

It was the fatal question Gryce had hoped for, and yet feared; but he faced it as a solution suggested itself to him.

"Yes," he said vigorously. "I think I have just the teacher for the place. Miss Louise Randall, whom I knew in college, has had a lot of training and is a strong teacher. I feel certain that she will come. I would be glad to have her elected to this place." He glanced around at the group and saw that something was wrong. Apparently the mood of the members had not become serious.

"Who is she? Tell us about her. Some special friend of yours?" came in a chorus of questions. They all began to laugh.

"Don't take us too seriously," suggested Carr, "or be too sad. We have got to have some fun; that's all we get out of this job, except the usual abuse of the community."

"I knew Miss Randall first," said Gryce, "as a student in the teachers' college, later I saw her work and heard of her success in Maxley. Last year her mother was sick, and she had to give up the work, but some time ago she wrote me that she would be glad to get another situation."

They were bound to have some fun at Gryce's expense.

"Is she good looking? Do you think Hi Bennett would choose her if Sarah should leave him?"

"She is not a giddy, rattle-brained girl, but a sensible, well-trained teacher who has decided to make teaching her life work."

"Do you think," asked Peters, "that she would want to stay after she got to be as old as Sarah McBride, or could some modern Hi Bennett persuade her to change the third reader for a cookbook and a blackboard pointer for a cooking spoon? There is such a thing as a teacher staying in the schoolroom too long. Isn't that so Mr. Gryce?"

"Decidedly yes! A weak teacher ought not to go in at first, but a strong one can never stay too long." Superintendent Gryce was still serious.

"Perhaps you could tell us about how long Miss Randall desires to teach." Clark looked at him with a grin which broadened as the other members saw the reason for Clark's joking.

"I make a motion," said Josh Smith, "that we elect Miss Randall for the third grade, at the regular salary."

"Second the motion," came from several men.

"You have heard the motion, gentlemen; those in favor say 'aye'. Miss Randall is unanimously elected," declared the president, and the secretary industriously scratched down the minutes.

"Unless there is other business," the president halted a moment, "this meeting is adjourned, sine die."

"I am glad to have this matter settled now, as next week I start on my vacation," said Gryce as the members drifted out of the secretary's office to the deserted street of the town.

The summer passed quickly, and Gryce came back from a mountain trip sun-burned, strong and vigorous and ready for a big year's work.

"Now for the best year the kiddies of Kisor have ever had," he said to himself as he trudged up the street from the depot. When he came to the square opposite the store of Mr. Carr that dignitary saw him from his door and motioned vigorously for him to come over.

"Hello Prof!" he greeted cheerily, "you back?'

"Yes, Mr. Carr, I had a splendid time. I climbed the mountains, went fishing, and cut up didos like a young colt in a new apple orchard.'

"See Miss Randall while you were gone?" inquired Carr.

"Why! No! I never even heard from her. Anything wrong? Hasn't she signed the contract?" He looked puzzled.

"Hang it all," burst out Carr, "haven't you heard *anything*?"

"Not a word! What's up? Nothing serious I hope?"

"No!" said Carr, "only this: Old Mrs. Churchill started the story that you were interested in Miss Randall, and only took this means to get her near you. She spread the rumor that 'we will have sparking in our school all year.' You know we had a rather ridiculous situation with our last superintendent, and the people won't stand for any love-making in the school."

"Do I look like that kind of a man," said Gryce now thoroly aroused. "Do you think I would lose my head and forget my duty because of any woman?"

"You can't tell, Gryce, you can't tell. A man is never too young, or ever too old, to make a fool out of himself if the right girl comes along."

"But this is the silliest kind of a story," said Gryce. "I am not in love with Miss Randall. I scarcely know her, and I have been interested in her record only as a teacher."

"Well, that's not so bad," said Carr, "she was up in Kisor last week to look over the ground and she heard the gossip. I reckon that mother Churchill made sure that she would. What did Miss Randall do, but up and resign on the spot. No arguing or debating by the board could get her to change her mind. She left town the next day."

"But she must be here," said Gryce, "for school next Monday. She had a contract."

"Nope!" said Carr. "I should say not. She tore the contract up right before my face, and said she didn't care to stay in such a town of 'scandal mongers.'"

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SCHOOL BOARD NEWS

In a statement to the public, the majority faction of the Louisville board of education, consisting of Edward Gottschalk, Albert B. Weaver and William H. Camp, declare that the board is superior to the superintendent in the management of the schools and that he may be removed by a vote of three-fifths of the board. The statement was made following the refusal of the board to affirm Supt. Reid's nomination of George Colvin as principal of the Boys' High School. Mr. Reid has proceeded to get in touch with available educators who may be prevailed upon to accept the principalship. It is possible that the matter may be amicably adjusted by the nomination of a candidate upon whom the entire board will agree.

The Minneapolis board of education has been asked to pay $8,540 to the city to cover its share of the expense of conducting the municipal purchasing department. In June 1917, a state law placed the purchases for school purposes in the hands of the city. The board has been obliged, however, to make out its own schedules and records and the city department has done little more than place orders. No economy in the price of goods used in the schools has been effected and the schools have been obliged to continue their supply department without any reduction in expense.

Council Bluffs, Ia. The board of education has permitted the employment of women as assistant janitors in the school buildings. Head janitors will continue to be men and the board will employ and pay such women assistants as may be necessary.

Chicago, Ill. The board of education has been sued by a taxpayer to prevent the taking of a school census. It has been claimed in the Chicago papers that the census is primarily to be taken for political purposes.

Columbus, O. The board of education has fixed its budget for 1919 at $1,806,000. Of this sum, $132,000 are to be used in raising the salaries of teachers. The board has decided definitely to submit to the voters a proposition for increasing the school tax levy by one mill.

Nashville, Tenn. Supt. H. C. Weber has reorganized the Hume-Fogg High School on a war basis and has similarly reorganized the elementary schools. Mr. Weber estimates that there will be a total of 15,270 children enrolled in the schools, and has employed for these 362 teachers including principals. During the school year 1917-18, the same number of children were taught by 425 teachers.

The reorganization has been effected by redistricting the city and by discontinuing small classes. The new plan will make possible a minimum size of classes of 21 pupils and a maximum of 42 pupils.

Newark, N. J. The Lafayette school with an enrollment of 1,452 pupils, has been reorganized on the study-work-and-play plan. The school is in session twelve months and closes only for two weeks in the summer, a week at Christmas and a week at Easter.

New York, N. Y. The board of education has received from the board of superintendents a recommendation that the by-law prohibiting married teachers from being employed in the schools be waived. The superintendents find that married women will be required to complete the teaching corps of the high schools.

Adrian, Mich. The board of education has authorized the superintendent of schools to purchase textbooks and to resell them to the pupils at cost.

Park City, Utah. The board has decided to limit itself to immediate needs in the matter of repairs and improvements but will leave nothing undone which will add to the comfort or health of the pupils and teachers.

The War Department has notified the New York City board of education of its non-acceptance of the Manhattan Trade School for Girls, which was offered to the government as an army hospital. The building will be ready for occupancy in September and the government has intimated that it desires the work to continue as a war-time measure.

Lewis F. Pipkin has been re-elected treasurer and Edgar J. Hoffman secretary of the board at Springfield, Mo.

Detroit, Mich. The board has decided to limit its bond issue to $1,000,000 for the present year because of war-time conditions. It is planned to sell $600,000 worth of bonds to relieve the Cass Technical High School and $300,000 more or less for elementary schools. It is probable that portable buildings will be utilized in some sections to relieve congestion.

The Chicago school system faces a 1918 budget over-appropriation of nearly three and a half million dollars. The budget places the excess of requirements over the estimated resources for the year, including the deficit for the last fiscal year, at $3,491,068. The budget which has been approved, shows a marked increase in several instances over the expenditures of 1917.

Columbus, O. A number of war-time economies are planned by the board for the next year. The board has moved into cheaper rooms, has consolidated the school library with the Carnegie Library and reduced the number of employes.

Middy blouses and suits of white or blue, with white, black or brown shoes have been adopted as the standard school dress by the girl high school students of Montgomery County, Kansas.

Supt. B. B. Jackson of Minneapolis, Minn., has recommended to the board that high school lunchrooms of the six high schools be placed under a common manager who will have charge of the buying of materials and the unification of methods of operation. The change is intended to make possible the adoption of the best methods of operation, more economical buying, uniformity in price fixing and closer correlation with domestic science departments with a view to making the lunchrooms outlets for school products.

Portland, Mich. The increased cost of conducting the schools has made it necessary for the board to revise the tuition rates for non-residents. For the next year the tuition charge will be $35 for the high school, $20 for the seventh and eighth grades, and $18 for the lower grades.

The school board of Palm Beach, Fla., has a deficit of several thousand dollars making it necessary to adopt a policy of retrenchment in expenditures. During the year free transportation, kindergartens and art will be d.scontinued, and domestic science appropriations will be reduced one-half.

Supt. F. E. Downes of Harrisburg, Pa., has recommended to the board a modification of the high school building program based upon the report adopted in 1916 when a loan of $1,250,000 was made. Dr. Downes showed that approximately one-half of the amount has been used or contracted for and he urged that a third study be made of the building situation by the two former experts, Dr. Henry Snyder of Jersey City. N. J., and Dr. J. H. Van Sickle of Springfield, Mass.

In his report, Dr. Downes declared that of five projects originally planned, only two are under way. Of the large loan authorized, $633,000 have been used to cover the cost of the first two buildings and more will be needed to carry out the condemnation proceedings for other buildings. The present condition is due to the increases in cost of labor and materials since the project was begun.

The Chicago board of education has adopted a resolution which provides that no person, society or organization shall be permitted to use the schools for the propagation of the doctrine contained in the resolutions adopted by the Socialist party at St. Louis, or as a medium for engendering or spreading disloyalty in any guise, by means of teachers, employes, pupils, grounds or buildings, or any school facility whatsoever, either thru meetings or entertainments in school or grounds, or by distribution of disloyal literature or dissemination of disloyal propaganda among teachers, employes or pupils; and which provides that no person, society or organization shall be permitted to hold any meeting or give any entertainment in any school, assembly hall or room, or on any ground of the board of education, which by intent or in fact will promote disloyalty, or will tend to discourage loyalty and patriotism.

It is further provided that when a request is made for the use of any school, assembly hall, room or ground of the board for a public meeting by any political party or faction of a party, or any kind of an organization, or person, for entertainment, that the superintendent or business manager or both, shall investigate the request and objects of the meeting or entertainment, and in all cases sworn statements must be

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SCHOOL LAW

School Lands and Funds.

Establishment and maintenance of Harris Teachers College in St. Louis, as an auxiliary to a system of free public schools of that city, to educate teachers therefor, is justified under the Missouri constitution, art. 11, ¶ 1, providing for establishment and maintenance of free public schools, and section 6 thereof, as to use of school funds.—Kayser v. Board of Education of City of St. Louis, 201 S. W. 531, Mo.

Schools and School Districts.

Directors of school district which had received money from the state, and who had used the interest thereon for school purposes for over two years, was estopped to deny existence of the district in mandamus proceeding to enforce payment of contractor's judgment against it.—State ex rel. Hentschel v. Cook, 201 S. W. 361, Mo. App.

Under the Iowa supplementary code of 1913, ¶ 2794 a, as amended by the acts of the thirty-sixth general assembly, c. 342, altho parts of subdistricts of school township not included in consolidated district were not so situated as to form a suitable school corporation, formation of consolidated district was not illegal, where parts not included were not isolated, but contiguous to the several subdistricts, no part of which was taken.—State v. Wald, 166 N. W. 785, Ia.

The county school superintendent had authority to organize consolidated school district under the Missouri laws of 1913, pp. 721-724, when proper proceedings were initiated.—State ex rel. Morrison v. Sims, 201 S. W. 210, Mo. App.

Record of special school meeting, showing proxy for county superintendent called meeting to order, was compliance with law as to organization of consolidated school districts, requiring county school superintendent, or some one deputized by him, shall call meeting to order.—State ex rel. Morrison v. Sims, 201 S. W. 910, Mo. App.

Where a county board denies a petition to form a new school district on the sole ground that its formation would be against the best interests of territory affected, district court, on appeal, must affirm, unless evidence justifies a finding that the board's action was arbitrary or fraudulent.—In re Froehling, 167 N. W. 108, Minn.

School District Government.

Since only authority given a county superintendent by the Iowa code, ¶ 2773, is to shorten school year, power to close a school is utterly inconsistent with power granted.—Peterson v. Pratt, 167 N. W. 101, Ia.

The board of directors of the consolidated independent school district can meet anywhere in township where district is located, and if district is located partly in two townships, meetings may be held in either, under the Iowa supplementary code of 1913, ¶ 2757.—Crawford v. School Tp. of Beaver, Dallas County, 166 N. W. 702, Ia.

School District Property.

The only manner of reviewing an order of a school board of consolidated independent school district as to location of schoolhouse site is by appeal to county and state superintendents as prescribed by the Iowa code, ¶¶ 2818-2820, and decision of the latter is final.—Crawford v. School Tp. of Beaver, Dallas County, 166 N. W. 702, Ia.

Under the acts of the 34th legislature of Texas, c. 36, ¶¶ 2-5, 15 (Vernon's annotated civ. St. Supp. 1918, arts. 2749a-2749c, 2749l, 2849b, amending acts of the 32nd legislature, c. 26, the county trustees alone have authority to establish high schools, and district trustees will be enjoined from attempting to select the site.—Woodson v. Stanley, 201 S. W. 659, Tex. Civ. App.

Under the Iowa code, ¶¶ 2773, 2774, where county superintendent did not authorize shortening of term of school in a district, but consented that school might be closed for school year, a contract by the board of directors of such district, and board of another district, whereby first district was to pay to other tuition for pupils, was void.—Peterson v. Pratt, 167 N. W. 101, Ia.

School District Taxation.

Under a contract for sale of school district bonds, failure to make proof of legality to satisfaction of purchaser's attorney is held not to entitle purchaser to return of deposit, unless it

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TEACHERS and SCHOOL ADMINISTRATION

TEACHERS' READING CIRCLES.

Teachers' Reading Circles have been considered for years the most effective device for encouraging among the members of the teaching profession, an interest in the literature of education, and have provided an adequate reward to those who conscientiously undertake the study of current educational theory and practice.

It is noteworthy that 35 states in the Union have provided teachers' reading circles thru legal instrumentalities or thru the voluntary associations of teachers, and have granted some form of professional compensation for faithful membership in the circles. Only thirteen states have no circles at the present time.

Among the latter states are: Arizona, California, Connecticut, Florida, Maine, Massachusetts, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, South Carolina, Vermont.

The greatest variations exist among the reading circles and there are very few points which they have in common. In eleven states the circles have a legal status, in 24 states they have no special provision in the statutes, but among these a majority is recognized in some form or other by the official school authorities. That this is true may be realized when it is said that 29 states offer a professional reward in the shape of a higher certificate or an extension of a limited certificate and only six fail to offer such a reward.

In 24 states membership in the reading circles is voluntary, while in eleven states the reading circles are looked upon as so valuable that it is compulsory for practically all teachers. Among the states which require membership may be mentioned: Alabama, Delaware, Idaho, Kansas, Minnesota, Montana, New Mexico, Oregon, South Dakota, Virginia and the Philippine Islands.

There is no uniformity in the number of books selected by the states. Some of them choose three or four books and some offer a wide variety of choice to the teachers by preparing a list of twelve to sixteen volumes.

In fourteen states the State Teachers' Association elects the members of the reading circle board, which is the official body, to select books and to provide the other administrative machinery for the circle. In 21 states various state authorities select the boards. In some cases the state superintendent is ex-officio a member and in others he selects the board, and in still others he has no connection whatever.

The books chosen for reading are chiefly limited for use during one scholastic year. In eleven states it is a fixed policy of the board to select books for one year only. One state selects books for a period of two years and 33 states have no fixed policy, but permit the choosing of especially successful books for a second or a third year. No fixed season of the year has been found most acceptable to the state circle boards for selecting books. It may be said in general that the spring of the year is preferred by a number of the more important and successful boards.

No figures are available concerning the total number of teachers enrolled in reading circle work. It has been estimated that among the country teachers more than fifty per cent are thus enrolled and do some professional reading under the direction of a state reading circle board.

TEACHERS AND ADMINISTRATION.

Boston, Mass. The school board has introduced the merit system of promotion for teachers. In rating teachers on an efficiency basis, educational preparation and experience, administrative ability, professional interest and growth, and personal characteristics and ability are taken into consideration.

St. Louis, Mo. The board has adopted a resolution requiring that all teachers sign a pledge of allegiance before appointment to a teaching position.

One hundred and two teachers in the state of Illinois were retired on a pension during the month of July. To date there are 750 teachers on the annuity list.

The National Security League conducted, during the summer, a number of patriotic training schools for teachers of the country. About 254 centers were opened with an enrollment of 200,000 instructors. The schools were conducted by volunteer instructors from educational institutions and patriotic organizations and practically every summer school included the subject in its course. The course covered from one to six weeks and consisted of lectures on the war and the best means of presenting the subject to children.

Baltimore, Md. The school board has refused to adopt a plan permitting female teachers to marry and retain their positions.

Philadelphia, Pa. The board has adopted a rule providing that teachers who leave the schools to enter government work shall lose their places. In case they return to teaching their names will be placed at the end of the eligible lists and appointment made in the order of registration.

Cedar Rapids, Ia. The board has accepted as teachers all young married women whose husbands are in government service. Women teachers who may in the future marry men in the service will not lose their positions.

Waukegan, Ill. As a war-time measure, the board has rescinded a rule prohibiting the employment of married women as teachers. Preference is to be given to women whose husbands are in service.

Pittsburgh, Pa. The board has adopted a resolution permitting the retention of married women whose husbands are in government service. Women whose husbands are not in service are to be retained at the pleasure of the board.

President A. E. Somers of the New York City board of education has voted against the employment of married women as teachers. Mr. Somers based his action on the fact that men who are capable of supporting their wives may seek to avoid their obligations. Mr. Somers has also disapproved the granting of leaves of absence to teachers for any but strictly military service. He points out that teachers can render patriotic service in the schools at the present time.

Indianapolis, Ind. As a measure of economy, the board has decided to dispense with the services of one hundred instructors, including forty teachers of German and sixty teachers of special subjects. The remaining teachers will be given increases of $100 a year.

Davenport, Ia. The board has denied a petition of the women teachers that they receive equal pay for equal work. It was shown that the elimination of the double wage standard would be an unwise step at this time.

TEACHERS' SALARIES.

New York, N. Y. Beginning July first, all teachers in the schools were granted increases to a new minimum of $1,000 a year. About seven thousand teachers are affected making a total increased expenditure of $300,000.

The schedule which provides for the lowest salaried teachers is as follows:

Teachers in the elementary grades and in the first six years of Schedules B1, B2, L1 and L3, including teachers of ungraded classes, additional compensation at the rate of $100 a year.

Teachers in the seventh to fifteen years in the same schedules additional compensation at the rate of $60 a year.

Assistant teachers in high schools in the first three years of Schedule D1 additional compensation at the rate of $100 a year.

Assistant teachers in training schools in the first three years of Schedule F1 additional compensation at the rate of $100 a year.

Dr. Calvin N. Kendall, State Commissioner of Education for New Jersey, who spoke before the summer school students at Collingswood, on July 22nd, urged all teachers to stick by the schools in order that the state school system may be kept up to its present high standard. He urged larger salaries for teachers in order that they may be retained for the next year.

Springfield, Ill. The board has granted a flat increase of $100 to every teacher up to the eighth grade.

San Antonio, Tex. The board has granted a flat raise of $5 per month to teachers.

St. Louis, Mo. The board proposes to grant a bonus of $50 to $100 to each teacher for the year 1918-19. The largest amounts are to go to teachers with the smallest salaries, these to be

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BUILDING and FINANCE

Minnesota in giving aid to public schools, follows a venerable, rather than an up-to-date scientific method, according to a report of the public education commission which has given its findings in a study of the state financial situation. It points out that state aid is not distributed as local needs require or as industrial departments warrant.

According to the commission, the state's permanent school fund now amounts to about $25,000,000 and this is expected to reach $100,000,000 or $200,000,000 thru the sale of school lands, timber and royalties on ore. To this the state adds for distribution in the same way, the proceeds of a one mill tax which now yields about $1,250,000 a year. This is distinct from the state aid for school purposes so that the state is now giving about $4,250,000 a year for school aid.

In June 1913, a commission of seven was formed with W. D. Willard as chairman, to make a study of the situation. The duties of the commission as delegated to it were to effect economy and efficiency with respect to the several branches of public education in the state. A part of the problem was to determine where economy could be looked for and how the test of efficiency might be applied.

The report of the commission which was prepared by Raymond A. Kent, formerly assistant professor of education in the University of Minnesota, is voluminous and not easily susceptible to condensation. In the main it presents these conclusions relative to the state program as now carried on:

The state includes communities of widely varying ability in maintaining schools. This is true for each of the three groups of communities included in the main divisions of schools as well as for the state at large.

The present method of distributing the apportionment aid is venerable, rather than effective for achieving any particular purpose.

Special state aid is not distributed according to local needs among any of the three classes of schools, or according to the needs of industrial departments. Special state aid as administered in Minnesota is a positive detriment to the rural schools. Developmental changes of conditions in the high and graded school situations make the present plan of special aid to these schools out of date.

Special industrial aid is not at present adjusted to the actual needs of the departments assisted as shown by the actual costs of these departments.

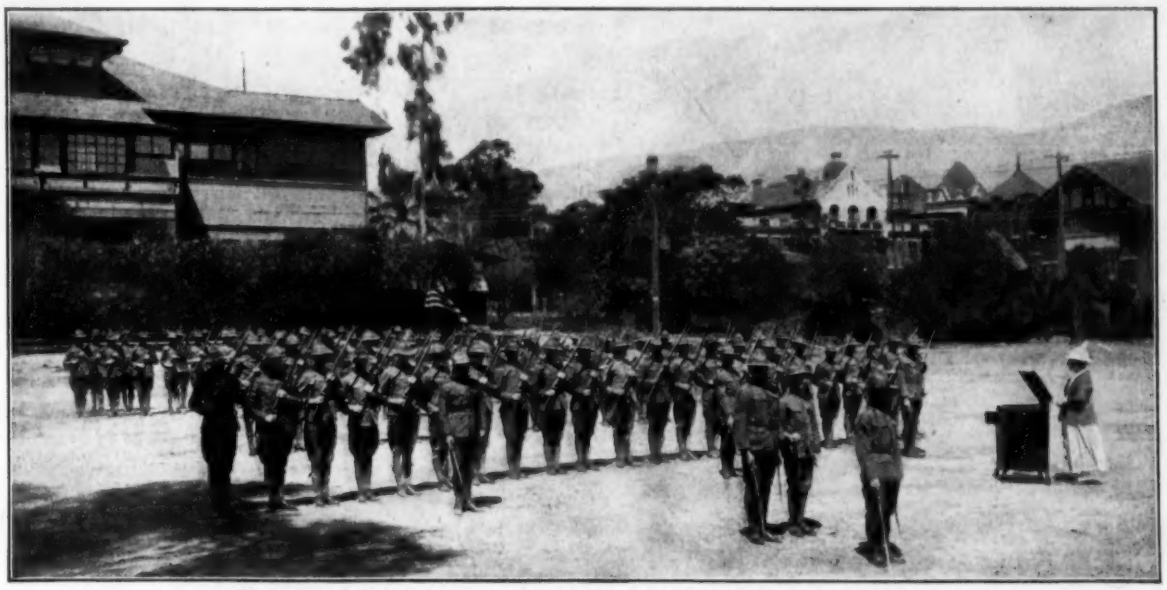
The state does not need greater appropriations for its public schools. The urgent present need with respect to state subsidies for public schools is the careful formulation of a policy of aid to its schools and of objective standards according to which the aid will be distributed.

The future possibilities of public school development by a carefully worked out redirection of the present total amount of aid, with frequent rigid checking of results, are beyond computation and seem almost immeasurable.

"Of the 1,011 rural districts, one-fifth receive from the state 50 per cent or more of their annual income," says the report, "and more than one-third of the 461 districts receive a similar share. Only between four per cent and five per cent of the graded, and less than this proportion of the high school districts, are given as much. Twenty-two per cent of the 1,011 districts receive less than 25 per cent from the state. Nearly 27 per cent of the graded and nearly 30 per cent of the high school districts receive less than 25 per cent. Between 75 per cent and 80 per cent of the 461 districts receive more than one-half the amount they themselves contribute. Only 49 per cent of the graded schools and 55 per cent of the high schools receive as much.

"State aid to rural schools has probably increased the length of the school year to some extent, but not so much as one is led to suppose by a cursory survey; it has not resulted in any in-

(Concluded on Page 50)



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Victrola

(Concluded from Page 48)

crease in the number of days that children attend these schools; it has not increased enrollment; it has not been a factor in increasing teachers salaries in these schools. Special state aid and current fund together have definitely resulted in the state's paying over two-fifths of the cost of upkeep in the districts being content to maintain educational standards little or none above the ones previously maintained; they have made the districts willing to accept state aid as a pecuniary endorsement of these educational standards and as a financial reimbursement to their own district treasuries.

"By encouraging the maintenance of the dwarf rural school, by having attached to its bestowal no conditions regarding enrollment, local taxation, local assessed valuation, and with extremely imperfect possibilities of checking whether the conditions presumed to be met have been met, state aid as it is at present distributed to the rural schools of Minnesota acts positively as a barrier to the advancement of the best interests of these schools and their patrons. It is educationally pauperizing the rural schools of the state."

Of other important phases of the study of the situation as the commission found them, the report says:

There is a point beyond which state subsidy tends distinctly to pauperize a local community. Special aid to rural schools, distributed on its present basis, is having this very effect upon the group of schools that receive it.

"The causes are not far to seek. In the first place, it is clear from evidence both within the schools and within the legislative field, that appropriations to these schools are made with no real reference to any existing conditions. In the second place, the distribution of the aid is very adequately supervised.

"The difference in this respect between rural schools on the one hand and graded and high school systems on the other is significant. Special aid to each of the latter was identical in time with provision of special supervision. A special inspectorship for the graded schools was created at the same time as aid for them, and for high schools soon after special aid for them. Every one of these schools has been visited by its inspector every year until very recently. The state has made very definite requirements and to gradually but constantly rising standards. The state has known what could be justly asked of the schools because it was in constant close touch with them.

"The typical Minnesota high school system is in a village of between 1,250 and 1,275 people. Its pupils attend 147 days each year, and each pupil costs his district 27 cents each day he attends. The district receives from the state seven and five-tenths cents for each pupil for each day he attends, and 32 per cent of all the annual income provided for maintaining the school system. The district, to raise its share, levies a tax of six mills on its real valuation. The assessed valuation of the property amounts to $1,186 for every child enrolled in the district.

"The variability among the different high school districts is such that statements of central tendencies concerning taxes and per cent of aid are somewhat misleading. There is a marked tendency for districts to put money into their high schools in direct proportion to the number enrolled in the high schools. There is no tendency, as is sometimes asserted, for some communities to support a high school 'at the expense of the grades.'

"In the lowest 21 per cent of high school districts, the average levy for all high school districts would bring between $3.75 and $11.25 per enrolled pupil. In the 19 highest, a similar tax would bring $37.50 to $800 per pupil. In the six districts of highest valuation, the same levy would raise from $254 to $800 per pupil. And yet there is no distinction made by the state in distributing the aid because of this extremely high variability.

BUILDING AND FINANCE NOTES.

The school board of Columbus, O., has adopted a budget of $1,800,000 for the next school year. In addition it will submit to the people at the November election, the question of a one-mill tax levy to provide $300,000 additional revenue to pay off a debt incurred to keep the schools running for the remainder of the year just closed.

The financial situation requires that there be a reduction of expenses and the board has decided to discontinue the distribution of free books and supplies such as paper and pencils. All pupils above the sixth grade will purchase their own books hereafter.

In a spirit of war-time economy, the school board of Peoria, Ill., has made several reductions in the expenses of the school system and placed the schools on a more efficient basis. The largest saving has been in the matter of teachers' salaries. Kindergarten work has been consolidated and all special work has been placed in the hands of regular teachers. Practically all the special teachers were reappointed to take the places of those who resigned. The next year will indicate a reduction in building outlay due to the fact that the debt on the high school has been paid off and a number of buildings were renovated last year.

The Board of School Commissioners of Mobile County, Ala., has decided to hold in abeyance the extension of its building program because of the increased cost of material and labor. It has, however, proceeded with its plans for the establishment of additional unit schools all over the county.

Several months ago a bond issue of $160,000 was voted by the county for six consolidated schools. These buildings which have practically been completed, provide for units of two, four, five rooms, etc., and are heated and lighted according to the latest school standards. The children are transported to the buildings in model school wagons where they are taught by teachers trained at the normal schools.

The contemplated extension of the unit system is in line with improvements along educational lines and is expected to have a far-reaching effect in the development of the community.

Canton, O. As a war-time economy, the school board has ordered that only such improvements as are absolutely necessary, be made to school buildings.

SCHOOL BOARD NEWS.

(*Concluded from Page 47*)

presented that the terms of the resolutions shall not be violated. Where doubt exists as to the purpose or character of any proposed meeting or entertainment, the Bureau of Investigation of the United States Department of Justice may be asked to have representatives present at the meeting or entertainment to secure compliance with the terms of the rules.

The school board of Youngstown, O., has ordered that a request be made to the state educational authorities for a survey of the school district which will comprehensively show where new school buildings may be located to do the most good and to accommodate the greatest number of pupils.

It is pointed out that there are now 44 school buildings in the district in a radius of 25 square miles, when, if the schools had been properly located, one building for each square mile would be sufficient, and no pupil would be compelled to travel a long distance. The haphazard method of locating school buildings has greatly increased the cost of upkeep.

Galesburg, Ill. New systems of school accounting, supply distribution and statistical records have been put into operation by the school board. The supply system provides for a distribution of school supplies from a central supply station which promises to save considerable expense.

Placing the repair and improvement work on school buildings on a normally operative all-year round basis has been proposed by Business Manager George F. Womrath of Minneapolis, Minn. The new plan involves the keeping of summer repairs down to a minimum and the distribution of the work over the entire year. It is the opinion of Mr. Womrath that more work can be completed at a greatly reduced expenditure.

Philadelphia, Pa. Representatives of the Master Builders' Exchange have asked the property committee of the board to decrease the retained percentage on school building contracts from 25 to ten per cent. The committee supports its contention with the statement that the ordinary building contract provides that ten per cent of the amount be held until the building is completed. It is pointed out that the high retainer is unfair because every important contract is secured by bond to protect the city and the board of education.

It is also urged that contractors receive a fairer calculation of the work performed on school jobs. Representatives of the board's building department have been so careful that they have kept down the amount of work completed, so that a builder is paid for only 63 per cent of the work instead of 75 per cent. It is recommended that the regulations be changed so that the general methods will more nearly accord with the building work in the city.

Haverhill, Mass. Defects in the present system of the public property department having control of the school buildings have been brought out thru a survey of the school system. The cutting out of red tape is suggested as a means of avoiding delays in repairs about the buildings. It is also recommended that repairs to school furniture be made by pupils in the manual training department. A third change proposed is that providing for the centralization of schools in districts in fewer buildings.

Indianapolis, Ind. The city school system is facing a deficit of $179,375, according to figures given by business manager George C. Hitt and reviewed by Supt. E. U. Graff. It is estimated that the income from all sources will be $2,065,500 and the total expenditure $2,244,875. It is planned to obtain legislative authority to issue bonds which will replete the special fund. The condition of the finances has made necessary a readjustment of the teaching staff involving reductions in the staff and transfers of unassigned teachers to existing vacancies.

School District 75, of Evanston, Ill., has issued an Analysis of Expenditures for the year 1916-17. Altogether fourteen tables are given as an aid in determining the cost of instruction for the year. Table I shows the school expenditures, the purposes for which money was spent and the percentage or total spent for each purpose. Table II shows the distribution by plants and the amounts directly chargeable. Table III indicates the expenses apportioned to schools by enrollment. Table V shows the cost of operation of the school plant and the amounts directly chargeable. Table VII shows the fixed charges and debt service. Table VIII shows the capital outlay distribution by plants. Table IX shows the library, health and school extension for the year. Table X shows the pupil costs based on enrollment, average enrollment and average daily attendance. Table XIV gives the cost of industrial work for 1916-17 and the pupil cost for industrial subjects. There is also a table of comparison of salaries of teachers for the years 1915-19. The total expenditures for all purposes amounted to $182,137 and the per cent of expenditure was 100. The total expense for general executive administration was $11,536, for supervision and teaching $111,789, for operation of school plant $30,774, for maintenance of plant $14,024, for fixed charges and debt service $2,879, for capital outlay $7,139 and for library, health and school extension $3,993.

Los Angeles, Cal. The board has adopted a war-time budget providing for a total school revenue of $6,465,997, or nearly a million more than last year. The sum of $400,000 is to be devoted to the care of the buildings, to sanitary improvements, purchase of building sites, and housing and equipment for an addition of three thousand pupils.

Chicago, Ill. The board has adopted a budget of $17,400,000 for the next school year. It is estimated that there will be a deficit of about $3,800,000 due to a limited income.

Williamsport, Pa. The board has installed an accounting system based on the Uniform Accounting System prescribed by the University of New York. The new system makes it possible for the board to determine exactly what each school building costs for maintenance and upkeep.

A national system of industrial schools to train in specialties essential to war production has been worked out by the United States Department of Labor. The work is intended to fit men for certain branches of the industries essential to war needs. By offering these courses it is believed that the nation's manpower can be welded into skilled production and workers will not need to accept less lucrative employment or work which is unsuited to their physical strength.

SCHOOL LAW.

(*Concluded from Page 47*)

related to steps leading up to issue of bonds—Koontz v. Iowa City State Bank, 166 N. W. 709, Ia.

Failure to furnish evidence satisfactory to attorney for purchaser of school district bonds, as to publication of notice of election, is held to involve step leading up to bond issue within contract, and to entitle purchaser to return of deposit.—Koontz v. Iowa City State Bank, 166 N. W. 709, Ia.

As contract of school board of one district to pay tuition to board of another district was void, district court had jurisdiction to cancel it, restrain payments thereunder, and order maintenance of school in first district.—Peterson v. Pratt, 167 N. W. 101, Ia.

Teachers.

Where a teacher's contract of employment is void, the directors of the district may summarily so declare it, altho the statute entitled a teacher to notice and a hearing before he can be discharged.—West v. Hedges, 171, P. 766, Ore.

In school-teacher's action on contract of employment, evidence as to lack of qualification may be introduced without first showing that he had been duly notified of defendant's contention, or given hearing; his contract of employment being void because he lacked statutory qualifications to teach.—West v. Hedges, 171, P. 766, Ore.

Pupils.

Under the Missouri constitution, art. 11, as to free public schools for persons between ages of 6 to 20 years all persons within constitutional age limit and otherwise qualified should have equal opportunity of becoming students in such schools.—Kayser v. Board of Education of City of St. Louis, 201 S. W. 531, Mo.

Requirement of equal opportunity to become students, implied under the Missouri constitution, art. 11, as to free public schools, is not violated by school board rule that graduates of its own schools be admitted to one of its higher schools without examination, while others who had graduated elsewhere should pass on examination.—Kayser v. Board of Education of City of St. Louis, 201 S. W. 531, Mo.

Harris Teachers College in St. Louis, being created primarily as auxiliary to system of free public schools authorized by the Missouri constitution, art. 11, to educate teachers for such schools, is not free public school to which all qualified applicants are entitled to admission, and its requirements as to limitation of admission may be determined by the city school board under the Missouri revised statutes of 1909, ¶ 11031, giving the board the right to make rules.—Kayser v. Board of Education of City of St. Louis, 201 S. W. 531, Mo.

St. Louis city school board rules, permitting entrance as students to Harris Teachers College of two-thirds of city's high school graduates without examination, while all others can enter only by examination, and of such others only such can enter as are required by prospective need of new teachers and pass the highest examination, is not unjust discrimination against those required to pass an examination.—Kayser v. Board of Education of City of St. Louis, 201 S. W. 531, Mo.

A charter of an independent school district authorizing board of education to establish, manage and control schools is held to authorize board to prescribe vaccination as condition of admission to schools if requirement is not unreasonable.—Staffel v. San Antonio School Board of Education, 201 S. W. 413, Tex. Civ. App.

A resolution of a board of education for exclusion of unvaccinated children from the schools is held not to violate the Texas constitution, art. 1, ¶ 19, as to due course of law.—Staffel v. San Antonio School Board of Education, 201 S. W. 413, Tex.

A resolution of a board of education for exclusion from schools of unvaccinated children is held not in violation of the Texas constitution, art. 7, ¶¶1, 2, 3, 4, 5, or the revised statutes of 1911, ¶¶ 2899-2901, as to public free schools.—Staffel v. San Antonio School Board of Education, 201 S. W. 413, Tex. Civ. App.

A resolution of a board of education for exclusion from schools of unvaccinated children is held not invalid as in conflict with the Texas compulsory education law.—Staffel v. San Antonio School Board of Education, 201 S. W. 413, Tex. Civ. App.

A resolution of a school board excluding unvaccinated children from schools is held not unreasonable where there was smallpox within the district and danger that it would spread and be communicated from one person to another.—Staffel v. San Antonio School Board of Education, 201 S. W. 413, Tex. Civ. App.

Teachers.

A teacher who under the West Virginia code of 1913, c. 45, ¶ 106 (sec. 2161), is excused from institute attendance by county superintendent, need not have certificate of such fact in writing in order to have benefit thereof.—Capehart v. Board of Education of Graham Dist., 95 S. E. 838, W. Va.

Under the Georgia acts of 1901, p. 373, ¶ 5, giving a board of education of a town power to suspend and remove its teachers, a board is not prohibited from making contracts with teachers for definite fixed time.—Board of Education of Doerun v. Bacon, 95 S. E. 753, Ga. App.

A board of education of a town or city, if not forbidden by statute, may contract with teacher to teach in its public schools for certain fixed term.—Board of Education of Doerun v. Bacon, 95 S. E. 753, Ga. App.

Where a board of education takes charge of a graded school, and relieves the trustees of a subdistrict from their duties, trustees cannot employ a teacher for such schools or for any grade therein.—Capehart v. Board of Education of Graham Dist., 95 S. E. 838, W. Va.

Appointment of a teacher by trustees of a subdistrict under the provisions of the West Virginia code of 1913, c. 45, ¶ 56 (sec. 2097), to be binding upon the board of education, must be in writing.—Capehart v. Board of Education of Graham Dist., 95 S. E. 838, W. Va.

Where a board of education of a town contracted with a teacher to teach in its public schools for a certain fixed term, and breached such contract by discharge without cause during the term of the contract, the teacher had action against the board for damages.—Board of Education of Doerun v. Bacon, 95 S. E. 753, Ga. App.

Where bond issue of school district is within the limit of indebtedness set by the Illinois constitution, but is insufficient to complete schoolhouse, tax levy for purpose of completing building is not in violation of the constitution.—People v. Martin, 119 N. E. 296, Ill.

TEACHERS' SALARIES.

(*Continued from Page 48*)

graduated downward to those making salaries of from $1,200 to $1,499.

Principals of elementary schools have been given increases of $120 and those in high schools increases of $144.

Pittsburgh, Pa. All teachers have been given flat increases of $100 per year.

Martinsburg, W. Va. Grammar school teachers are to receive a minimum salary of $550 per year, with increases of $5 per month after the first and second years.

Manchester, N. H. The board has granted increases of $50 to all grade teachers.

Columbus, O. The board has asked the budget commission for $132,000 with which to raise the salaries of teachers.

Supt. J. M. Gwinn, of New Orleans, La., in a recent report to the school board on present conditions in the country, deplored the low standards which have prevailed in the qualifications of teachers, the short tenure of office and the low salaries. Mr. Gwinn pointed out that one-half of the children of the country are enrolled under untrained teachers, that about 5,000,000 have teachers under 21 years of age, and these teachers remain for five or six years and give way to others equally young and untrained.

Morenci, Mich. The board has raised the salaries of teachers from fifteen to thirty per cent.

Norristown, Pa. A minimum salary schedule based on the professional qualifications of teachers, has been adopted. The minimum salary for elementary teachers with provisional certificates has been fixed at $600; for teachers with professional certificates or state normal certificates, $675; for teachers holding permanent or state normal diplomas, $750.

In the high schools, the minimum salary for female teachers, without college diplomas, is $1,000; for college graduates, the salary is $1,050; male teachers, without college diplomas will receive $1,300 and those with a college education will receive $1,350.

St. Joseph, Mo. The board of education has provided for flat increases of $5 to $10 per month for all the teachers and janitors employed in the school system. The increases will swell the school pay roll by $3,700.

Seattle, Wash. Eighteen industrial shop teachers and 21 instructors in domestic science in grade schools have been granted war bonuses of $180 in addition to their regular salaries.

Pittsburgh, Pa. The board has granted increases in salary for grade teachers, making the minimum $750, and the maximum $1,250 a year, not including the war bonus increase of $100 a year previously given. The board has appointed a committee which is to aid in obtaining an appropriation of $20,000,000 from the state legislature to provide a 25 per cent increase in salary for every teacher.

Milwaukee, Wis. A new salary schedule is planned for summer schools. First-year principals will be raised from $5 to $6, principals of the second year will receive $7, and in the third year $8. Teachers will be paid from $4 to $5.

San Francisco, Cal. The board has adopted a payroll providing for an increase of from $3 to $5 per month for nearly 1,200 teachers in elementary grades. The total of the increases will reach $58,000.

Springfield, Ill. Flat increases of $100 have been allowed for each teacher.

Moline, Ill. The teachers' committee has prepared a salary schedule providing for a maximum salary in grades two to six of $85 per month; in kindergarten, first and seventh grades, $90, and in eighth grades, $100.

New York, N. Y. The board has adopted a tentative schedule, setting the minimum at $1,000 and rearranging the subsequent salaries of the lower-paid and younger teachers. The increases will amount to about $906,000.

Chicago, Ill. The board has prepared a budget which provides for increases of from $100 to $900 a year for many of the high salaried employes. The largest increase, from $1,600 to $2,500 is given to Miss Anne Davis, chief vocational advisor.

Others considered are four assistant superintendents, $5,000 to $5,500 a year; Edward F. Worst, elementary manual training supervisor, $4,000 to $4,500; John B. Curtis, supervisor of blind, $2,500 to $2,700; William Bachrach, commercial work supervisor, $3,500 to $3,750; Lucy S. Silke, art supervisor, $3,000 to $3,300; Agnes C. Heath, music supervisor, $3,000 to $3,300; Daniel P. McMillan, director of child study, $3,500 to $4,000, and Dudley Grant Hays, director of school extension, $4,000 to $4,500.

It is also planned to divide high school principals into three classes, those with schools under 800, from 800 to 1,600, and over 1,600, and grant salary raises from $100 to $400. Increases for high school teachers of from $100 up are also planned, making a total of increases for the year of $150,000.

New Bedford, Mass. The board has granted a flat increase of $100 to all the employes of the department. The maximum for grade teachers has been fixed at $1,000.

Four thousand teachers of West Virginia are paid not to exceed $45 per month, according to a delegation of prominent men of the state who appeared recently before the state council of defense in behalf of the rural schools. The members presented an oral statement of conditions in the rural schools which have come about as a result of the war and declared that living salaries must be paid in order that the schools may be reopened in the fall. It was pointed out that the $750,000 provided as the minimum amount in the general school fund would not be sufficient to carry out the plan for just compensation of teachers and should be increased to $1,000,000.

Boston, Mass. Teachers in the schools will be given increases ranging from $96 to $144 a year. The new schedule will give an average increase of $100 to grade, special, principals' assistants and junior high school teachers; $160 increases to teachers who have taught ten years and over, and $200 increases to principals of grammar schools.

Oakland, Cal. Supt. F. M. Hunter has presented to the board a schedule of teachers' salaries, fixing the pay of elementary school and kindergarten teachers at from $1,080 a year to $1,380 a year, contingent on years of service; intermediate and authorized departmental school teachers, a maximum of $1,380 per year; high school teachers, from $1,080 to $1,740 a year; manual training and vocational teachers, from

$1,320 to $1,620, and heads of departments, an increase of $60 a year or $5 per month.

Elementary—Teachers of two and less than three years' experience, $1,080 per annum; teachers of three and less than four years' experience, $1,140 per annum; teachers of four and less than five years' experience, $1,200 per annum; teachers of five and less than nine years' experience, $1,260 per annum; teachers of nine and less than ten years' experience, $1,320 per annum; teachers of ten or more years' experience, $1,380 per annum.

Intermediate and departmental schools—Teachers in these schools, holding high school certificates, or graduates of a college or university, will receive the maximum salary of $1,380, provided they have had two years of successful experience as regular teachers.

High school teachers—Instructors of three and less than four years' experience, $1,500 per annum; instructors of four and less than five years of experience, $1,560 per annum; instructors of five and less than six years' experience, $1,620 per annum; instructors of six and less than seven years' experience, $1,680 per annum; instructors of seven or more years' experience, $1,740 per annum. Assistants, without reference to experience, $1,080 to $1,320 per annum.

SCRANTON SALARY SCHEDULE.

The school board of Scranton, Pa., has adopted a complete salary schedule providing for increases in salary for all teachers and giving the qualifications which must be met by applicants for teaching positions. Grade teachers, under the schedule, will receive increases of $50 a year and in addition, a bonus of $50 a year during the war period. High school teachers and supervisors will receive increases of $100 a year. The total salary increases will reach $42,000.

The complete salary schedule is given below:

Elementary Grades—Kindergartens and grades one to seven, minimum $550, annual increase $50, and maximum $900; grade eight, minimum $750, annual increase $50, and maximum $1,000; ungraded classes, minimum $750, annual increase $50, and maximum $1,000; teaching principals, fewer than four teachers, minimum $750, annual increase $50, and maximum $1,000; teaching principals, four to seven teachers, minimum $1,000, annual increase $50 and maximum $1,200; principals, eight to eleven teachers, minimum $1,200, annual increase $50, and maximum $1,400; principals, twelve to fifteen teachers, minimum $1,300, annual increase $50, and maximum $1,500; principals, sixteen to nineteen teachers, minimum $1,400, annual increase $50 and maximum $1,600; principals, twenty or more teachers, minimum $1,500, annual increase $50, and maximum $1,700.

A special maximum salary of $1,000 for kindergartens and grades one to seven, and $1,100 for grade eight will be given for special excellence in grade work, superior teaching and further study equivalent to one-half year of academic and professional work. A special maximum of $200 will be given to elementary principals for excellence in administration, supervision and for further study equivalent to one year's college or university credit.

High School—Teachers, minimum $1,000, with annual increases of $100 up to a maximum of $1,500; heads of departments, minimum $1,500, with annual increases of $100 up to a maximum of $1,800; principals, maximum, $3,500; vice-principals, minimum $1,800, with annual increases of $100 up to a maximum of $2,100.

The following qualifications have been adopted to govern the appointment of teachers and principals:

1. Applicants for positions in Central High School must be college graduates with at least two years' experience; in the Technical High Schools, applicants must be college graduates, with two years' experience, or normal graduates with two years' experience, or graduates of a recognized manual training school.

2. Applicants for positions in the grades must be college or normal graduates, or graduates of the Scranton Training School.

3. Normal graduates who aply for grade positions must be graduates of a four-year high school course or equivalent (not enforced during the period of the war).

4. Teachers, before receiving appointment, must serve five months as temporary teachers.

5. Teachers having received a temporary appointment, but who have not served five months, are permitted to continue to teach until the term of probation expires; they may then receive the approval of the superintendent and obtain a permanent appointment.

Teachers are elected on the following plan:

Applicants for principalships in elementary schools must have had at least two years' experience in grade work, must be college or normal school graduates, and also of the regular four-year school course.

Applicants for principalships in elementary schools must pass a written examination in each of the subjects of history of education, school administration and management, principles of teaching, school hygiene and English composition. The examination must be conducted by a recognized educator, not a resident of Scranton, appointed by the superintendent and approved by the board.

Applicants for positions in the grades of the elementary schools—excepting eighth grade teachers of pre-high school subjects—must pass a written examination in each of the subjects of school management, principles of teaching, school hygiene, and English composition.

Applicants for position to teach in high schools are required to take an examination in the subject or subjects, in which they desire to qualify, the methods of teaching these subjects and in English composition.

Applicants who are college graduates, without previous actual experience, are eligible to teach the pre-high school subjects in the eighth grade.

Grade teachers, having six years' experience and who have high school subjects on their certificates, may take examinations for eighth grade positions and be marked on the same basis as college graduates without experience.

Applicants for positions to teach pre-high school subjects in the eighth grade may be examined in Latin and algebra, in the methods of teaching Latin and algebra, and in English composition. Written examinations for each of these special departments will be given by the superintendent.

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NEW RULES and REGULATIONS

TEACHERS' RULES.

The Detroit board of education which was reorganized a year ago as a "small board" has adopted a complete set of rules for teachers:

1. All applications for position as teacher or principal shall be made thru the Superintendent, and filed in his office.

2. Any person appointed teacher or principal must pass a physical examination given by the Medical Director of the Board of Education, who shall certify that the person is in sound physical health. If such a certificate cannot be secured, a contract shall not be issued.

3. To be eligible to appointment to a position in the elementary schools, an applicant shall hold one of the following qualifications:
   1. A Detroit Normal School Diploma;
   2. An academic degree from a university or college;
   3. A life diploma from a state normal school;
   4. A Michigan state life certificate.

4. To be eligible to appointment to a position in the high schools or junior high schools, an applicant shall hold an academic degree from a university or college and shall have completed a minimum of eleven hours of educational courses.

5. To be eligible to appointment to a position as teacher of a special subject, an applicant shall have completed suitable courses in a recognized training school having a course of not less than two years.

6. All teachers appointed, except those from the Detroit Normal Training School, teachers of Manual Training, Household Arts, Physical Training, Music, and Drawing, shall have had not less than one year's successful experience in teaching.

7. A supervisor, principal, or teacher shall be allowed twenty days' absence each year on account of personal illness or illness in the immediate family without having the name of the teacher taken from the payroll, this allowance for absence being cumulative but not to exceed a total of eighty days. There shall be no deduction of salary for the first day's absence of each period of illness, but for the remaining days of such absence there shall be deducted in the case of elementary and kindergarten teachers $3.60 per day, and in the case of other teachers, principals, and supervisors, $4.10 per day.

When no substitute is employed the amount deducted from the teacher's salary shall be given to the Teachers' Retirement Fund.

When a teacher is absent on account of the death of a member of the immediate family, grandfather, grandmother, or any relative with whom he makes his home, no deduction shall be made on account of such absence for a period not to exceed five days.

8. Married women may be recommended for employment by the Board of Education at the discretion of the Superintendent of Schools.

9. The maximum time for which leave of absence may be granted to any teacher shall be one year, but a leave of absence may be extended.

Regular schedule increase in salary shall be allowed if the leave of absence is for the purpose of study and certified credits are presented upon return.

If a leave of absence is granted during a term, salary ceases at the time the leave takes effect.

10. The salary of a teacher does not begin until he or she reports for duty.

11. All applicants for night school work shall possess the same qualifications as substitute teachers in the day schools of like grades.

PERSONAL NEWS OF SCHOOL BOARD OFFICIALS.

The school board of Omaha, Neb., has re-elected W. T. Bourke secretary of the board, and Duncan Finlayson superintendent of buildings. Charles Eads has been re-elected custodian of the warehouse.

Mr. B. D. Quarrie has been elected a member of the board at Cleveland, O., to fill the unexpired term of A. L. Hitchcock.

Isaac Marsilje, who was recently re-elected as a member of the board at Holland, Mich., has completed 39 years of service as a representative of that body. For several years Mr. Marsilje has served as president of the board.

Lieut. Robert M. Sohngen, formerly president of the board at Hamilton, O., has been promoted to a captaincy in the national army.

Mr. Charles J. Fosberg has been elected business manager of the Chicago school board, to succeed Percy B. Coffin who has resigned.

Rev. J. A. Van Schaick, Jr., has been re-elected president of the board of education for the District of Columbia. Rev. Van Shaick is at present connected with the American Red Cross in France.

Thomas P. Wenner has been re-elected secretary of the board at Allentown, Pa.

Bertram W. Wall, formerly secretary of the board at Providence, R. I., has been commissioned second lieutenant in the quartermaster's corps.

Louis E. Hesse, superintendent of supplies of the board of education at Chicago, Ill., has resigned.

Mr. C. F. Buck has resigned from the board at Morenci, Mich., after 25 years of service.

Mr. Homer L. Nearpass, formerly superintendent of supplies in the St. Paul, Minn., schools, has been appointed educational director of the Y. M. C. A., A. E. F., in London.

S. R. Fenner has been re-elected secretary of the board at Wilkes Barre, Pa.

A. W. Moss has been re-elected secretary of the board at Wilkesbarre, Pa.

George Haak has been re-elected superintendent of buildings and supplies at Scranton, Pa.

A. S. Jaquette has been elected secretary of the board at Uniontown, Pa.

Claude B. Sykes, who was recently re-elected as secretary of the board at Benton, Harbor, Mich., has announced his candidacy for membership in the Michigan state legislature.

PERSONAL NEWS of SUPERINTENDENTS

DEATH OF HENRY O. WHEELER.

Henry O. Wheeler, veteran of the civil war and for more than thirty years head of the school system of Burlington, Vt., died July 17th at his late home in San Dimas, Cal., where he made his home with a son.

Henry Orson Wheeler was born in Williston, Vt., in 1841. After leaving the academy he entered the University of Vermont in 1860. His studies were interrupted the next year by the call to the colors and his muster into the service as a private in the Vermont Cavalry. In September, 1863, he was commissioned First Lieutenant of Company A. He was mustered out in March, 1865, and brevetted Captain for gallant and meritorious service.

Mr. Wheeler returned to the University and was graduated with the class of 1867. Later he took his degree from the law department of the University of Michigan and engaged in the practice of law in Iowa. In 1871 he returned to Burlington to continue the practice of law and in 1880 was elected superintendent of schools.

Mr. Wheeler retired from the superintendency in 1913, after a service of 33 years. During this long period there was a general growth in efficiency in every department of the city and the school system kept pace with the modern trend of progress. The growth of the schools and their standing in the state affirm his eminent worth as an educator.

Mr. Wheeler was a man of large endowments, of constancy of purpose and trueness of vision. His spirit of sympathy and love for children never failed to attract. He possessed an unfailing sense of humor and was particularly able in harmonizing existing antagonisms.

PERSONAL NEWS OF SUPERINTENDENTS.

P. M. Harbold has resigned as president of the State Normal School at Millersville, Pa.

A. N. Weaver, superintendent of schools at Conshohocken, Pa., has resigned to become principal of the high school at Williamsport, Pa.

E. M. Crouch has been elected superintendent of schools at Kingsport, Tenn. Mr. Crouch is a graduate of Milligan College and recently obtained his professional diploma from Columbia University.

Mr. Alfred P. Fletcher, of Rochester, N. Y., has been elected assistant superintendent of schools at Cleveland, O. Mr. Fletcher will supervise the two technical high schools and will direct the work in prevocational training in the junior high schools.

E. T. Vasey, of Charles City, Ia., has been elected superintendent of schools at Mason City. Mr. Vasey is a graduate of the University of Nebraska and obtained his master's degree from the University of Iowa.

Supt. Hugh S. Magill of Springfield, Ill., has announced his candidacy on the Republican ticket for the office of State Superintendent of Public Instruction in Illinois. Mr. Magill recently acted as director of the Illinois Centennial Celebration.

Mr. C. C. Rossey, of Wheeling, W. Va., has been elected principal of the Concord Normal School to succeed L. B. Hill. Mr. Rossey is the youngest head of a state educational institution in West Virginia.

Mr. Harry M. Shafer, of Bakersfield, Cal., has been elected assistant superintendent of schools at Los Angeles.

Mr. James Widdowson, of Westminster, Md., has been appointed principal of the State Normal School at Frostburg.

Supt. James R. Childs of the Holden-Rutland School Union, Holden, Vt., has asked for his release in order that he may enter the Army Y. M. C. A. work.

Miss Lizzie E. Wooster has announced her candidacy for the republican nomination for state superintendent of Kansas.

Supt. Russel Myers has been re-elected at Morenci, Mich., at an increase of salary.

Trinidad, Colo. Prof. H. M. Corning, formerly principal of the Rice School, has been appointed superintendent of schools to succeed J. R. Morgan, resigned.

Berlin, N. H. Supt. H. L. Moore has been re-elected at a salary of $3,250, an increase of $650.

Miss Anna Webb Blanton has been nominated on the Democratic ticket, for state superintendent of public instruction in Texas. Miss Blanton is the first woman to be nominated for a public office in the Lone Star State.

Mr. Homer L. Nearpass who has been a city superintendent in Minnesota and recently assistant superintendent in charge of supplies at St. Paul, has been appointed educational director of the American Y. M. C. A. for the London district.

Since assuming the work, Mr. Nearpass has organized a number of educational activities for American soldiers in England. The most novel of his classes is the "Movie Class in French." It is made up of men who are passing thru the city and the same men rarely attend twice.

Mr. W. C. Reavis, who has been connected with the Harris Teachers College, at St. Louis, Mo., has been elected superintendent of schools at Alton, Ill., for a period of three years. Mr. Reavis assumed his duties August 1st.

The board of education has fixed his salary at $4,500 for the first year, $4,750 for the second, and $5,000 for the third year.

Supt. Carroll R. Reed of Rockford, Ill., has been re-elected and his salary increased to $5,000.

Mr. W. C. Knoelk, superintendent of elementary schools, Waukegan, Ill., has been granted a year's leave of absence to enter camp welfare work for the United States Government.

Harry E. Shafer, of Hanford, Cal., has been appointed superintendent of schools at Bakersfield.

Duncan MacKinnon has resigned as superintendent of schools at San Diego. He is succeeded by Guy V. Whaley.

Supt. Alexander Sherriffs has been re-elected at San Jose, Cal.

WAR WORK IN NORTH DAKOTA HIGH SCHOOLS.

The State High School Inspector of North Dakota has issued a report on the war activities of the high schools for the year just closed. The report shows that the 144 classified high schools were actively interested in Red Cross work, war gardening, relief work and the various patriotic campaigns conducted by the government, Red Cross and other patriotic and religious organizations. There are 947 high school students and 91 teachers enrolled in the army or navy, eight teachers are working as nurses and eighteen have gone into the Red Cross, Y. M. C. A. or other war work. A total of 119 schools have war gardens and 59 boys are enrolled in the Boys' Working Reserve.

There are 24,897 members in the Junior Red Cross and 5,624 in the Senior Red Cross and a total Red Cross fund, exclusive of memberships, of $6,090.63. The Y. M. C. A. was given $8,127, the Knights of Columbus $512, Salvation Army $300 and the Belgium Relief $60. A total of 1,050 teachers purchased Liberty Bonds to the amount of $90,880 and 4,040 pupils purchased, with a total of $264,850. The amount of war savings owned by teachers is $40,580 and that owned by pupils amounts to $59,768. The total for bonds and stamps reached $456,079.

WAR ACTIVITIES AT GALENA.

The public schools of Galena, Ill., during the past year worked diligently in all war activities including Junior Red Cross work. A Junior Chapter was formed and the money for memberships was secured thru baking and candy sales, patriotic programs, sacrifice boxes and Sammie sales.

The sewing and knitting which formed the largest part of the work was taken up by all the children. The work which was done in class under the direction of the teachers included comfort pillows, wash cloths, dish towels, quilts, comfort bags, napkins, gun wipes, hospital supplies, refugee clothing, dolls and knitted articles for the soldiers. The boys made puzzles, scrapbooks, checker boards and rag rugs.

In addition, surgical dressing classes were held in the high school with the support of members of the Senior Red Cross. During the summer the younger children devoted their attention to war gardens and the older boys engaged in farm work.

At the recent war stamp drive, high school girls acted as a flying squadron for bringing in pledges. A total of $2,168 was realized in thrift stamps and two hundred children bought Liberty Bonds.

As a result of regular classwork the teachers of English in the high school were able to train a number of four-minute speakers for war stamp and Liberty Loan drives. High school cadets acted as escorts to the contingents of drafted men and all the children marched in patriotic parades.

THE WAR AND THE SCHOOLS.

A military training unit has been established at the State Normal School, River Falls, Wis. The department will be in charge of an army officer and five student officers. Students who are over 18 years may enlist and remain in school until they finish the course. Those under the age limit are encouraged to enroll in the training units in order that they may take advantage of the training offered. No students in training will be called for active duty before they reach the age of 21, unless urgent necessity demands it.

The Ordnance Department of the government, thru the industrial service section, has established fourteen elementary schools on its reservations where the local authorities are not able to take care of the school population of the reservation. A total of fourteen reservations in as many cities have been provided with schools. The school population of these centers ranges from 75 to 4,000 and the number of teachers varies from two to one hundred. Schools for the colored as well as the white children are to be provided at Charleston, W. Va., Nashville, Tenn., and Sheffield, Ala.

Applications are requested from teachers with the required training and experience. They will be paid at a minimum rate of $80 per month during a term of nine or ten months. Teaching principals, with nine or ten assistants, will be paid at a minimum rate of $100. Supervisors, principals and superintendents, with ten or more assistants, will be paid at the rate of $150 per month.

Teachers who are interested should address F. C. Butler, Ordnance Dept., Group B-3, 6th and B Sts., Washington, D. C.

PRECAUTIONS FOR ANTICIPATING INTERRUPTIONS IN SCHOOL TERM.

Sensible advice on the necessity of starting the schools early and of continuing them without interruption is contained in a circular letter issued by Dr. E. W. Butterfield, state superintendent of public instruction for New Hampshire. The danger of shortened terms and of winter closing due to a shortage in fuel are to be anticipated by a long fall term. Dr. Butterfield writes:

"Last year, due to the inclement weather of a severe winter, to lack of fuel and to frequent changes of teachers, the attendance record in many schools was low and in consequence the school work suffered. From statements of the New England Fuel Administrator, it appears that, while this winter schools and colleges will be given preferential treatment as Domestic Consumers, there is a likelihood of insufficient coal during the mid-winter months.

"As a measure of prudence and in the interests of economy, it is recommended to school boards that they open schools this fall as early as seems to them possible and that they take steps to secure and retain full attendance thru the fall months. During this season, little interruption to the school term thru half-holidays and days when the school is closed for the convenience of teacher or pupil or because of threatening weather should be permitted.

"It is recommended also that it become the general custom to engage teachers for the year and under such terms that a full year of service may be expected. Tho we are facing a shortage of teachers, it now appears that sufficient teachers will be available to open all schools in the fall, if school boards make prompt arrangements with teachers before they enter other occupations or engage to teach in other states."

AN UNDERSTANDABLE REPORT.

Mr. James A. Wagner, secretary of the Ottumwa board of education, prepares for the local schools an annual financial report which shows on one compact sheet the entire financial transactions of the schools and the present status of the school fund.

The accompanying plate is a reduction of the original sheet which measures 28 by 6¾ inches. It will be noted that the report shows the cost of each individual school building, the total for each building, the per capita cost for each pupil, and that the totals are itemized in such a way that they may be compared with corresponding totals for the previous year. In the two columns at the right of the form are concluded items of expense which cannot be apportioned to the several school buildings and a summary of receipts and disbursements.

The report has been found valuable not only in informing members of the board of education and the executive officers of the schools, but also in arousing an intelligent interest among the local citizens and taxpayers.

INCREASING THE EVENING SCHOOL ATTENDANCE.

To increase the attendance in the Vocational Department of the Vincennes evening schools, Mr. J. I. Sowers, director of the schools has devised a plan for securing the co-operation of employers in the formation of classes. During the summer vacation months an industrial census was taken thru the several shops and stores and information was gathered on the total number of workers, the number of workers between 16 and 25 years of age, the need for instruction, the kind of instruction desired, probable number of foremen who could be recruited for teaching, etc. A large number of employers responded and assisted the school authorities by securing the tentative enrollment of their employes. The following blank will explain the spirit which underlay the propaganda carried on thru the employers:

Enrollment Card for Progressive Workers.

The management of this firm is co-operating with the Vincennes school board in offering *special courses of training* to increase the skill and knowledge of our employes in their daily work.

Information as requested on this card is necessary to establish classes meeting the needs of our people.

Some of our employes have from time to time taken correspondence courses to better fit them for advancement—this is commendable. We desire now however to provide free instruction along any line that will develop our employes into *greater efficiency*, putting them in line for *promotion* and *advancement*.

Some of these courses will be given during the day in Part-Time classes, but for the most part instruction will be given in evening classes.

Name..... Address.....
Age..... Phone number.....
Place of employment.....
Kind of work you are now doing.....
Do you desire training of any kind?.....
What course of training do you desire?.....

The federal government has made available to Vincennes a sum of money to pay in part for giving such course in trade education as are needed by the people of our city. These courses are free and are open to anyone of either sex over sixteen years of age. Courses chosen must however be such as directly relate to the daily occupation.

When filled out hand this card to your employer.

Classes will not begin until after Sept. 1.

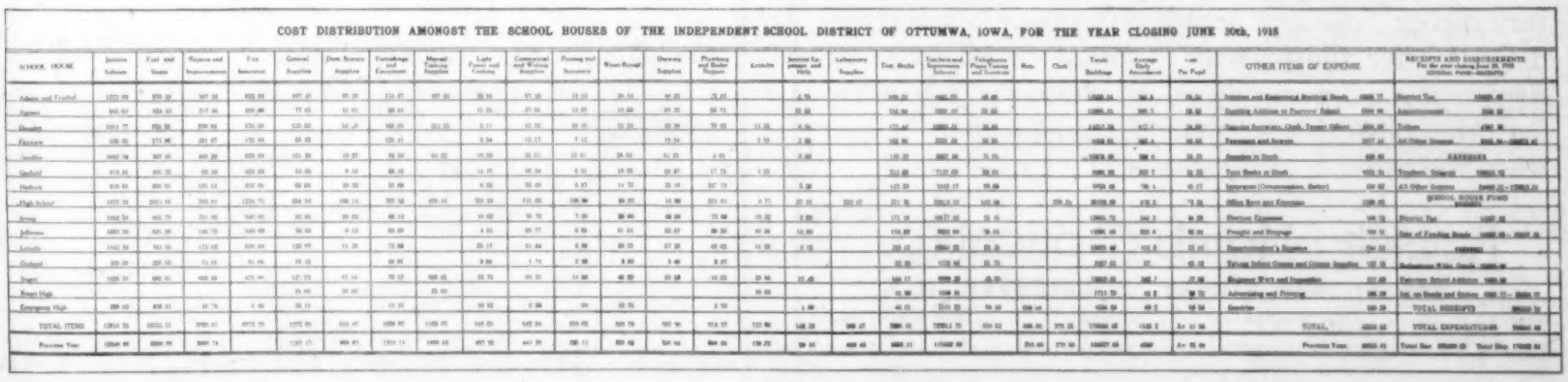
Credit cards for training taken will be given students.

Filling out this card does not obligate you in any way.

Much of the work was done by personal calls on the employers. Letters were written and

(*Concluded on Page 65*)

COST DISTRIBUTION AMONGST THE SCHOOL HOUSES OF THE INDEPENDENT SCHOOL DISTRICT OF OTTUMWA, IOWA, FOR THE YEAR CLOSING JUNE 30th, 1916



Financial Report prepared by Mr. James A. Wagner, Secretary of the Board of Education, Ottumwa, Ia.

(Concluded from Page 63)

other follow-up was used. The campaign was undertaken primarily because of the responsibility which the schools feel for the untrained men and women in the city. Mr. Sowers holds that any untrained industrial worker is a direct challenge to the school system. Co-operation in the campaign was generously received from the Chamber of Commerce and other local social forces.

As a part of the campaign for evening classes, a strong effort is made to interest young workers and employers in part-time schools.

TO CONTINUE STUDY.

Mr. Frank Irving Cooper, Chairman of the Committee on the Standardization of Schoolhouse Planning and Construction, has announced that the committee will actively continue its research during the coming year. The committee has received a subsidy of $1,000 from the National Education Association, and it has been granted a subsidy of $15,000 by the General Education Board of New York City. While definite plans of the committee have not been announced by Mr. Cooper, or his associates, it is expected that the work of tabulation will be continued until a sufficient number of school buildings has been studied to provide definite standards for practically every department of school work.

During the past year the committee determined that the portion of school area devoted to instructional purposes should exceed fifty per cent of the total floor area, and determined the proportion of space to be devoted to administrative and to other specific purposes. At present the committee has under way a study of the minimum amount of illumination required for efficient work in various types of rooms. This study, it is expected, will be brought to a successful close within the next year. Other studies are proposed for the standardization of heating and ventilation etc., by the co-operation of committees appointed by the American Society for Heating and Ventilating Engineers and the National Fire Protection Association.

MR. S. O. HARTWELL TO ST. PAUL.

Mr. S. O. Hartwell of Muskegon, Mich., has been elected superintendent of schools at St. Paul, Minn., to succeed Mr. E. C. Hartwell. The latter, who is no relative of the former, has recently accepted the superintendency at Buffalo.

Mr. S. O. Hartwell has gained a national reputation for the efficiency of the schools which he administered during the past 29 years. Mr. Hartwell is 52 years of age, and his teaching experience has been practically all gained in the state of Michigan. For 26 years he was connected with the schools at Kalamazoo, Mich., as principal and as superintendent of schools. During the past three years he was located at Muskegon. In both cities he introduced the most modern administrative methods so that these communities became the objective of frequent visits by superintendents and other educators.

Mr. Hartwell is a native of Littleton, Mass., and a graduate of Amherst College. He has been a teacher in the summer school of education at the University of Chicago, and was a member of the survey staff in the Cleveland and St. Louis school surveys.

PERSONAL NEWS.

John S. Clark, of Waukegan, Ill., has been elected superintendent of schools to succeed W. C. Knoelk who has been given a year's leave of absence to enter war work.

Supt. J. C. Wardlaw of Atlanta, Ga., has been re-elected by the board of education following an investigation of the school system by the city council committee.

Edward D. Roberts, assistant superintendent of schools of Cincinnati, has been appointed civilian advisor to the general staff committee on English Training of the War Department. Mr. Roberts will give advice and suggest methods for conducting the classes for foreigners and illiterates in the army.

The salary of Supt. Harry E. Fowler, of Ansonia, Conn., has been raised to $2,600 per year.

Mr. Paul C. Stetson, principal of the South Junior High School at Grand Rapids, Mich., has been elected superintendent of schools at Muskegon, to succeed S. O. Hartwell who has gone to St. Paul. Mr. Stetson was the first principal of the Grand Rapids Junior High School and developed the idea of the six-year plan in the schools. He is vice-president of the Middle West Vocational Education Association and is chairman of the Committee on Course of Study for Junior High Schools of the National Education Association.

Mr. Clarence N. Flood, Supt. of Schools for the past year in the town of Saugus, has been elected to the superintendency of the Braintree public school system. He assumed his duties there the fifteenth of August.

Mr. Napoleon B. Corthell, who came to Saugus from the city of Bath last fall, has been elected to a more lucrative position in the city of Salem. His annual salary will be $1,700 per year.

COLLEGE TRAINING PLAN IN OPERATION.

The Students' Army Training Corps proposed early during the summer by the United States War Department is a fact, altho it is not yet known how many young men have been enlisted and will enlist by October 1st. On July 18th, three large training camps at Plattsburg, N. Y., San Francisco, Cal., and Fort Sheridan, Ill., opened 60-day courses with an attendance of 7,000 members of college faculties and selected students to prepare men to assist in the military instruction of the Students' Army Training Corps.

The Students' Army Training Corps is attempting to mobilize and develop the brain power of the young men of the country for such military service as demands special training. Its object is to prevent premature enlistment of young men who can by extending the period of their college training manifold their value to the country as officers, engineers, doctors, chemists and administrators of every kind.

"The importance of this need cannot be too strongly emphasized," says the War Department's circular. "This is a war in which soldiers are not only marksmen, but also engineers, chemists, physicists, geologists, doctors, and specialists in many other lines. Scientific training is indispensable. Engineering skill is needed by the

officers who direct every important military operation and who control our lines of transport and communication. In the same way chemical and physical knowledge are in constant demand at the front as well as behind the lines, while the task of saving the lives and restoring the health of hundreds of thousands of wounded calls for the services of regiments of military physicians. The scientific training which prepares a man to fulfill one of these highly specialized duties and the more liberal training which helps to develop the qualities of leadership needed by the officer or administrator are essential elements of military efficiency.

"The boy who enlists in the Students' Army Training Corps will be a member of the Army of the United States. He will be provided by the War Department with uniform and equipment, but will be on furlough status and will not receive pay. He will undergo regular military training as a part of his course during the college year, will attend a six weeks' camp for rigid and intensive military instructions with private's pay, and will be subject to the call of the President for active service at any time, should the exigencies of the military situation demand it. The policy of the Government, however, will be to keep members of this corps in college until their draft age is reached, and the War Department will have the power to order such men to continue in college even after their draft age is reached whenever their work is such that the needs of the service, e. g., for doctors, engineers, chemists, and the like, are such as to make that course advisable."

THRIFT STAMP SALES IN ST. PAUL.

Between March 1st and June 15th, the St. Paul schools sold a total of $173,806 worth of thrift and war savings stamps, and it is expected that this amount will be increased to $350,000 by the end of the present year. This remarkable result was obtained by a systematic campaign carried on in all the schools in the city.

The campaign was conducted by the State Savings Bank which turned over a department including five stenographers, the manager and the treasurer of the bank to the County War Savings Committee. The chairman of the War Savings Committee, Mr. E. L. Patterson and the two officers of the bank made patriotic speeches in every school and in every educational center in St. Paul. A systematic follow-up was organized and a thrift unit was established in every school. The units were competitive in character and the active propaganda was supported by the school authorities. A quota was allotted to each school and 100 per cent efficiency was sought for.

In the War Savings Headquarters of the city a large bulletin board has been set up to record the progress of the schools week by week. On the board appear the sales of enrollment and the percentage of efficiency of each school. The recording of school achievements has been resumed with the reopening of the schools and the newspapers publish the weekly totals.

Up to the close of schools on the 15th of June, the public graded schools had purchased a total of $104,038 worth of stamps; the high schools had bought $28,649; the parochial schools had bought $26,643; and the private schools had bought $14,474.

BOARDS OF EDUCATION.

The school board of Atlanta, Ga., has adopted a number of resolutions looking to the improvement of the school system in general and to a better understanding among those engaged in the school work of the city. The resolutions follow the recent investigation of the school system by the council committee. Two of these resolutions are reproduced herewith:

The board of education feels that it is to this body that all criticisms or complaints from those in the system against individuals or against the rules and methods of the board should first come. It looks with disfavor upon any other method of airing complaints or grievances, and will insist that in the future all such matters should come first thru the superintendent to this body; and it pledges a prompt, free and fair investigation and full remedy where just criticisms or complaints are made. The board does not wish to be understood as discouraging just criticisms from those in the system concerning matters of interest to the schools. Out of them frequently come great good. But it respectfully insists that all such criticisms, or any suggestions for the betterment of the system, should first be made to this body. It will always welcome timely suggestions.

It shall be the policy of this board to charge the superintendent of schools with full responsibility for the conduct and management of the school system in so far as matters of a purely disciplinary or executive nature are concerned.

The Circuit Court of St. Louis County, Mo., has dismissed the petition of Henry Schurk, a taxpayer, to enjoin the board of education from making repairs to school buildings and other school property, except to the lowest bidder.

The house of representatives of the Georgia legislature has passed by unanimous vote, an amendment to the Atlanta city charter bill providing for a board of education to consist of five members and the mayor as an ex-officio member, to be elected by the voters and to have full and unrestricted jurisdiction over the school administration, and the control of the school fund apportioned from the city's funds. The measure eliminates the school system from the control of the council and has the support of a large proportion of the members. The senate will now consider the amendment.

The school board of Norfolk, Va., has adopted a wage scale for janitors in order to provide a standard rate for certain buildings and to adjust conditions brought about by the erection of a high school.

Beginning September first, all janitors of schools with furnaces will be paid $75 per month for twelve months; for each regulation size classroom above eight rooms, janitors will be paid $3.50 per month. In the high school, which has two sets of furnaces, the salary will be $100 per month for twelve months and $3.50 per month for each room above eight rooms.

W. H. Burnham has been elected president, and E. N. Smith, secretary, of the board at Adrian, Mich.

The rural schools of Knox County, Tennessee, opened for the fall term on August 5. Supt. W. M. Stooksburg caused the opening date to be advanced a month as a measure of conserving fuel. It will be possible to save 1,200 tons of coal by shutting down classes for a winter vacation.

NEW BOOKS

College Algebra.

By Ernest Brown Skinner. Cloth, 263 pages. Price, $1.50. The Macmillan Company, New York.

During his term of office, former President Cleveland said of some difficult situation, "This is not a theory, but a condition, that confronts us." Mathematical professors in our colleges and universities may say the same of the present situation in algebra.

It is admitted that the time given to algebra in our secondary schools has been shortened to one year—the freshman year. This makes it necessary to put college algebra upon a more elementary basis. This author has also tried to show the practical side of algebra by using illustrative examples drawn from geometry, physics and other sciences. It has long seemed to the writer that one valuable result from studying algebra is the power of thinking in symbols. This power of using and thinking in symbols is of almost incalculable value in the whole world of thought.

"College Algebra" is not a large book, but it contains enough stiff work for the average freshman.

Great Inventors and Their Inventions.

By Frank P. Bachman. Cloth, 272 pages; illustrated. Price, 80 cents. American Book Company, New York.

The human story back of the invention of the steam engine, the telegraph, the sewing machine, the telephone, etc., are told in this splendid supplementary reader.

A Child's Book of the Teeth.

By Harrison Wader Ferguson, D. D. S. Cloth, 63 pages; illustrated. Price, 44 cents. World Book Company, Yonkers-on-Hudson, New York.

This text for third and fourth grades will serve also for supplementary and home reading. The humorous illustrations no less than the vivid style make it attractive.

Collar and Daniell's First Year Latin.

Revised by Thornton Jenkins. Cloth, 347 pages; illustrated. Price, $1.12. Ginn and Company, Boston.

Experience in teaching Latin has fully qualified this editor for the revision of this unusual book. A few of its points of superiority are:

1. The vocabularies have been shortened to include only 574 words, of which 94 per cent occur in the first four books of Caesar.
2. The essential syntax is clearly presented with adequate drill.
3. Connected Latin for reading is introduced early (Lesson 11) and is used liberally thruout the lessons; in addition there is abundant reading material at the end of the book. All this reading is interesting. This last point is important. The writer owes much familiarity with Latin, with early Roman history and mythology to a rather extended reading of Nepos.
4. Effective attention has been paid to derivatives by placing related English words after the Latin words, giving this phase of the study continual prominence.

It is difficult to write fitly of the four full-page color plates, the half tones, and the line drawings; they are so delightful. Roman buildings, Roman interiors, Roman weapons and soldiers, give detail after detail of Roman life. They will reward long and loving study.

"First Year Latin" has had a remarkable past, it will undoubtedly have a successful future.

The Gordon Readers.

Primer, First and Second Readers. By Emma K. Gordon and Marietta Stockard. Cloth, 91, 142 and 171 pages respectively; illustrated. Price, 32, 40 and 44 cents each. D. C. Heath & Company, Boston, New York, Chicago.

A new series, containing strictly new material. Indeed, a large part of this material has never before appeared in any school reader. References show that perception cards and a manual will be given as aids in using the phonic method of teaching words. This method is not pushed to an extreme in this series. This is well, since reading is not taught to gain the phonic method, but the phonic method is taught to help to learn to read.

Good paper, beautiful type, illustrations in black and pleasingly delicate colors are noticeable features.

Word Study and 100 Per Cent Business Speller.

By Sherwin Cody. Cloth, 127 pages and paper, 74 pages. World Book Company, Yonkers-on-Hudson, N. Y.

Business handbooks usually have the excellent quality of concentrating effort upon only a few points. Word study and 100 per cent business spelling have this quality. In the latter emphasis is placed upon 100 spelling demons, letter writing words, a list of hard words. This is about all, and it is quite enough. The former may be described as a sensible and skillful combination of word analysis, lists of business terms with exact definitions, lists of words often mispronounced, with other special and useful lists of words.

Rapid Method for French Verbs.

By Roch-Alphonse de Massebielle. Cloth, 104 pages. Price, $1, net. Published by Crocker & Co., San Francisco.

Verbs are the backbone of a language. Learners may grumble over their modifications, irregularities, special uses, still the stubborn fact remains that the mastery of a language depends upon mastery of its verb.

This rapid method consists in learning verb endings, adding them to verb stems, and using the resulting verb forms in answering questions given in English. A good workable suggestion is that questions should be asked without naming the tense of the verb. Different classes of regular verbs, auxiliary verbs, verbs having peculiarities, irregular subjunctives, tenses not much used in conversation, but only in writing, present many sides of this subject. Names of

fruits, flowers, foods, articles of clothing, articles of furniture, used with different forms of different verbs, form a basis for much oral and written work.

The Melodic Method in School Music.

By David C. Taylor. Cloth, 171 pages. Price, $1. The Macmillan Company, New York.

Within fifteen years the study of music has gained a firm footing in our public school curriculum. Tho it may not be classed among the vocational studies, it has this definite function: (1) To train the child in the habit of healthful emotional activity; (2) to furnish him with the foundation of a cultivated taste, which will enable him in all his later life to take full advantage of the opportunities for healthful emotional recreation afforded by the most potent of all arts.

This logical and clear exposition of the melodic system in school music stands for training in good music as opposed to bad, trashy music. In the school children should hear only good music—music in the form of melodies they will enjoy and there is a wealth of good music from which to make selections. These singable melodies will cultivate taste and a musical memory.

This author maintains that "a keen sense of hearing, familiarity with the sound of a pure musical tone, and practice in singing tones of this character under the guidance of the ear" are the only essentials needed in the cultivation of the voice by the natural method. Faults may be cured by training the ear to notice the difference between the pure tone and the faulty tone.

Rote singing comes first, later comes the most difficult element in the school music course, teaching sight reading. The steps in sight reading, means to be used in gaining these steps, musical attitude needed in teacher and class to secure efficient teaching, are fully and sympathetically stated. This with much besides goes to prove the school music course must be made up of three elements—appreciation, choral singing, and sight reading.

Liberty, Peace and Justice.

Cloth, 128 pages. Price, 32 cents, net. Houghton Mifflin Company, Boston, New York, Chicago.

In this timely book the opening selection is the Declaration of Independence, July 4, 1776, in which the fathers of our country expressed self-evident truths. The last one is an address given by Woodrow Wilson, in Baltimore, April 6, 1918. All but four have been published since 1916. From different points of view all state principles on which an enduring democracy must be based.

Essentials of English.

By Henry Carr Pearson and Mary Frederika Kirchwey. Cloth, Book One, 308 pages. Price, 40 cents. American Book Company, New York.

Two members of the faculty of the Horace Mann School, at Teachers College have collaborated in the preparation of this book which is based upon methods and materials which they have used for some years. The book illustrates splendidly the gradual progress from oral to written work which must be undertaken in the fourth, fifth and sixth grades. Dramatization, compositions and letters are depended upon most largely in developing the transition. Models from masterpieces of English are freely used and the formal technic of capitalization, spelling and punctuation are continually emphasized. The average teacher will welcome the suggestive picture studies and the thoro review material which are provided.

The whole book is characterized by a freshness and appreciation of average school conditions that will make it a welcome addition to present lists.

Peter and Polly in Autumn.

By Rose Lucia. Cloth, 175 pages, illustrated. Price, 48 cents. American Book Company, New York.

This attractive volume completes a year's cycle of stories involving the healthy, lovable children whose names appear in the title. The adventures and happenings, which the author relates, show an intimate knowledge of child life and child interests. The dialog seems natural and fresh as coming from young children and is at the same time not too limited in vocabulary to be truly useful. The colored illustrations and the mechanical makeup of the book are of the highest quality.

Systematic Drill in Arithmetic.

Books II and III. By Amelia Strasburger and Joseph Chankin. Cloth, 180 and 181 pages respectively. Price, 45 cents each. Longmans, Green & Company, New York, Chicago.

The mathematical work of most men and women deals only with the four fundamentals. If they can add, subtract, multiply, divide accurately and rapidly, they are equal to what is required of them. Owing to faulty early training, not all can do this.

These books give systematic drill in the four fundamental operations with integers. The number and variety of these devices and drills are almost remarkable. It would seem that automatic and therefore rapid and accurate calculating must follow.

Home Life Around the World.

By George A. Mirick; with illustrations by Burton Holmes. Cloth, 163 pages. Price, 64 cents, net. Houghton Mifflin Company, Boston, New York, Chicago.

Many illustrations, topics for pupils' study, variety given thru letters and stories, an attractive style, enter into this geographical reader. The authors have kept in mind the needs and interests of children from eight to ten years of age. They have succeeded in this aim of picturing home life and widely different regions—to telling how men and women, boys and girls, work, play, live.

The World War and What Was Behind It.

By L. P. Benezet. Cloth, 368 pages; illustrated. List price, 60 cents. Scott, Foresman & Company, Chicago, New York.

A sub-title, "The Story of the Map of Europe," tells the scope of this book more plainly than the main title does. Thru maps, illustrations, text, an outline has been given of the changes in Europe, thru migrations or conquests, since the dawn of civilization.

The general public as well as the sixth, seventh and eighth grades will find in these pages an answer to more than one of their questions.

BUYERS' NEWS COLUMN

A NEW SERIES OF MAPS.

The value of a school map depends on three main factors: First, geographical completeness and accuracy; second, pedagogical value; and third, mechanical excellence. The three factors are interdependent; any shortcoming is certain to affect all three in the final test, which is the teachableness, if we may be free to coin such a word.

Quite a radical departure from traditional school map-making are the new Bacon semi-contour maps which the Weber, Costello Company is publishing and selling in the United States. The compilers have boldly departed from the accepted symbols and devices with several thoughts in the foreground.

First, they have made the maps more than purely political by introducing a novel method of representing the contour of land masses—mountains and plateaus. Many points in political geography are absolutely unintelligible without reference to land elevations, soil fertility, etc., in addition to the location of rivers, lakes and other bodies of water. In the Bacon maps a very splendid use of gray tints has been made to represent land contours.

The second point which the maps emphasize is a wealth of information which adds to the completeness of the study. It is notable that this information—on rainfall, temperature, transportation by rail and ship, cable communication, etc., is possible without confusing the main purpose of the maps.

Altogether unique is the absence of borders from the maps. This arrangement which is likely to be looked upon with horror by the old time map makers has been adopted to make possible the use of a larger scale on the standard size sheets. It has also this pedagogical advantage, which the compilers have foreseen, namely, that each map gives the impression that it portrays a part of the earth and that these parts join naturally to make the whole globe. The old bordered maps frequently impressed upon children the mistaken notion that North America, for example, is practically separate from the rest of the earth.

Quite successful in these maps is the lettering which is almost entirely in a horizontal position. Teachers will have no need to apologize for pointing to names which are illegible in the ordinary classroom. It would take a column to point out similar mechanical excellences of the maps.

In brief, they are scholarly, complete, entirely teachable and well printed. The publishers have taken especial pains to obtain inks which they claim are non-fading. Each map is mounted on durable cloth, so as to ensure its life and service under severe classroom conditions.

The complete set of maps includes eight maps: the United States, North America, South America, Europe, Africa, Asia, the World in Hemisphere, World on Mercator's Projection. Complete literature has been prepared and is available for readers who request it. Correspondence may be addressed to the Weber-Costello Co., Chicago Heights, Ill.

NEW OLIVER SPEED LATHE.

The Oliver Machinery Company, of Grand Rapids, Mich., has just placed on the market a new motor driven speed lathe. The lathe which is known as the No. 51 motor head speed lathe is designed for three phase, sixty cycle, two hundred and twenty volt electric current. It is provided with hand feeding carriage and compound swivel rest but may be furnished with plain bed in four or five foot lengths. The swing of the lathe is identical with that of the regular motor head type of lathe.

The motor head stock and ball bearings are entirely enclosed, making the mechanism dustproof and dirtproof. The rear end of the motor is fitted with a combined hand wheel and faceplate. The outer end is rounded. The inside is curved to give a hand wheel shape while the outer surface is straight and forms a perfect faceplate for rear end turning.

A dustproof controller is mounted inside of the left hand leg. The motor operates according to the positions marked on the front and the mechanism is so perfect that the hand wheel cannot be turned in the wrong direction. All parts of the lathe are interchanged and the machine is guaranteed to be perfect in material and workmanship.

School boards and teachers of woodworking who may be interested in this new speed lathe, should address the Oliver Machinery Company at 12 Coldbrook St., Grand Rapids, Mich.

MR. BROWN TO FRANCE.

David Brown, general manager of the J. L. Hammett Company, New York, has just volunteered his services to the Y. M. C. A. and leaves for France to drive a motor truck.

Mr. Brown is a veteran of the Boer War, having served for five years with a Scotch Regiment. He has extensive Canadian railroad construction experience, and makes an ideal man for this work. Mr. Brown is one of the first men of the school trade who has volunteered in the Y. M. C. A. service and both his company which gave him a six months' leave of absence and Mr. Brown are to be most highly commented for this splendid service to the nation in this great cause.

A janitor of a public building who employs others to assist him in his work is not a "laborer" entitled to the provisions of the Massachusetts pension law of 1915, according to a decision of the Supreme Court of the Bay State in dismissing the petition of N. D. Tribon for a pension of $775. Mr. Tribon had been janitor of the Sprague School, Brockton, for the past forty years, and having reached the age of 65, was on June 30, retired by the school board. He claimed that as a laborer he was entitled to a pension which the Mayor refused to give him.

FOR BUSY SUPERINTENDENTS

State Supt. A. M. Deyoe of Iowa has addressed letters to the school boards of the state requesting that in view of the scarcity of teachers, that small rural schools be closed. Pupils in these schools will be sent to the nearest school in the vicinity.

Lexington, Ky. The school board has substituted the name Primary Circle for Kindergarten. The new designation is intended to more clearly indicate the aims, principles and ideals of this department of the schools as a basis for what follows in the child's training. It gives the idea of intimate connection with the rest of the school system.

Monson, Mass. All the schools of the district opened a week earlier this year in order to prepare for a possible coal shortage this winter.

The board of education of New Haven, Conn., has substituted the title dean of high school for student counsellor. Miss Janet M. Purdue, who has held the position for the past four years, continues in the work at an increased salary.

The New York Board of Education has received recommendations in increasing number for the partial revision of the by-law prohibiting the appointment of married women teachers whose husbands are living. It is felt that there are a number of women at the present time whose husbands will be called into service or who have found marriage unsatisfactory who may be returned to the service thru a change in the rules.

Mrs. Anna Love, county superintendent of Oklahoma County, Okla., has devised a successful plan for securing teachers for the schools of her county. Arrangements are made for meetings at the superintendent's office where teachers in search of positions and school boards in need of instructors are asked to assemble and learn each other's needs. Thru this plan, contracts are often quickly signed. It is believed there will be no teacherless schools this year.

State Supt. S. W. Sherrill of Tennessee has devised a plan for meeting the shortage of teachers in rural districts. He suggests in districts where two schools are close together that the teacher teach four months in one school, then four months in the other. Pupils of both schools will be permitted to attend the full eight months and the district will save the expense of an extra teacher.

Vallejo, Cal. The board has adopted a salary schedule for teachers. For the elementary grades, the salaries are $900 for the first year, $960 for the second year, $1,020 for the third year, and $1,140 for the fifth year.

The maximum salary for the first year in the intermediate grades is $960; for the second year, $1,020; for the third year, $1,080; for the fourth year, $1,140, and for the fifth year, $1,200.

The maximum salary for the high school for the first year is $1,200; for the second year, $1,260; for the third year, $1,320; for the fourth year, $1,380, and for the fifth year, $1,440.

More than eight hundred elementary teachers of Toledo have received increases of $200 in salary thru the joint action of the budget commission and the school board.

Pittsfield, Mass. A total of 133 teachers who have not received increases for two years, were recently granted raises in salary ranging from $40 to $100 a year.

Pupils in the Philadelphia high schools have been engaged during the past few months in the making of engine parts for the Emergency Fleet Corporation. The West Philadelphia, South Philadelphia and Northeast High Schools have been turned over to the male war workers and the Central High School has been reserved for training and for war work purposes. A minimum of $2 a day will be paid.

An additional quota of 150 has begun a course of vocational training at Washington University, under the direction of the war department. It is expected that fully five hundred will be in training during the fall and winter months.

Dr. E. H. Trowbridge, head of the school hygiene department of Kansas City, Mo., recently made a report showing the amount of work done. For the six months represented in the report, there were 2,134 school visits made, 26,885 children examined and 5,348 parents were advised concerning the condition of the children. Contagious disease shows a remarkably low record owing to the vigilance of nurses and the prompt exclusion of sick children. Seventy-six have been found to be mentally defective.

Minneapolis, Minn. Mr. Calvin W. Jarvis has been appointed administrative head of the department of hygiene.

Lansing, Mich. The board of education has employed a school nurse to supervise the medical inspection of children and to render other services in connection with the hygiene of the schools. A salary of $1,100 will be paid.

Rooms in Chicago school buildings have been kept open during the summer for use in various kinds of war work. The expense is borne by the board of education which has ruled that rooms shall be assigned only where there is a real demand and where the attendance is likely to justify the expense. A total of twelve buildings have maintained recreation centers.

The school board of New York City has refused the offer of a Brooklyn builder to put up non-fireproof school buildings on land he owned and to lease or sell it to the board. Further investigation revealed that the proposal did not provide school accommodations at a reasonable cost but was mainly attractive to the builder.

The building of schools urgently needed in New York City is threatened with delay and possibly with entire curtailment during the period of the war due to the demand for materials needed for the army. The war industries board has intimated that materials for the construction of schools might not be available and has suggested that such construction activities be held in abeyance for six months or more. The board plans to present its case to the war industries board and to indicate the urgent need for classroom accommodations.

VACUUM CLEANING SYSTEMS IN SCHOOLS.

(*Continued from Page 29*)

will be taken into consideration in awarding contract. The maximum velocity of any moving part of the producer shall not exceed 13,000 feet per minute.

Motor. Motor shall be directly connected to vacuum producer and shall be wound for — volts and ———— current. If direct current shall be of the commutating pole type with slotted commutator.

Motor shall be of ample size to operate the vacuum producer at full load for two hours without rise of temperature of over 45 degrees Cent. and shall operate without undue noise or vibration.

Starting Device. Starting devices furnished shall be capable of starting motor twice in succession and repeating the operation at five minute intervals without damage, equipped with overload and no voltage release coils, the overload coil being of the inverse time element type.

Separators. Separators shall be constructed of steel, of the dry type, and shall contain no cloth bags or other devices liable to rupture by air currents and so arranged that no part will receive the direct impact of the dust. Separators must separate at least 90 per cent of the dust.

Piping. Piping system shall be so proportioned that it will permit the operation of —— sweepers at the same time, not over ——— on any one riser. Bidders shall submit table or schedule of pipe sizes to be used with their bid.

All pipe shall be black iron or mild steel standard weight. Fittings shall be recessed drainage type, long turn wherever space permits. Pipe bends to be used wherever dirt is drawn up.

Pipe shall be smooth inside and reamed to full diameter and screwed to recesses in fittings and butt in couplings.

Easily accessible, horizontally disposed clean-out plugs to be placed at base of risers and ends of lines.

Care shall be exercised that the face of fittings at outlets are properly located to insure proper fitting of inlet valves.

Approved pipe hanger shall be provided on all horizontal overhead pipes, spaced not over ten feet apart. Where pipes pass thru floors, walls or ceilings of finished rooms they shall be fitted with nickel plated floor or ceiling plates securely fastened in place.

Inlet valves. Inlet valves shall be of the self-closing type arranged so that valve will close in any position, and shall be fitted with means for holding the hose in place when inserted.

Hose. Furnish 50 feet of 1½ inch rubber-lined, steel reinforced, suction hose, weighing not over 12 ounces per lineal foot, for each sweeper of plant capacity. Hose shall be fitted with couplings which cannot readily be pulled apart, which have no metal parts projecting to injure floors or furniture.

Cleaning Tools. All tools shall be of the best material and workmanship, with cleaning slots not less than ⅝ inch wide. Floor tools to have renewable wearing surfaces and shall be attached to the cleaning handle by means of a swivel that is controllable by operator by turning the handle.

Floor and wall handles shall be steel tubing, nickel plated, not less than 1⅛ inch inside diameter, provided with durable swivel elbow so arranged that the hose will hang free from the cleaner handle at all times.

All tools shall be positively attached to handles, friction taper not acceptable.

The following tools to be provided for each sweeper of plant capacity:

One floor handle not less than 4 feet long.

One wall handle in two sections.

One hand upholstery tool not less than 5 inches long.

One carpet renovator 12 to 15 inches long with cleaning slot not less than 7½ sq. in. area.

One 15 inch open end bare floor renovator with renewable felt or rubber wearing face with cleaning slot not less than 8 sq. in. area.

One hand brush and library tool, with self-contained handle and cleaning slot not less than 6 inches long.

One round brush not less than 4 inches diameter with best quality bristles.

One 15 inch wall brush with swivel joint.

Capacity Test. To test the capacity of the plant 50 feet of hose will be attached to as many outlets as the plant capacity, and in all hose lines except one to be fitted with metal disk ⅛ inch thick, having ⅞ inch diameter sharp edge hole in the same. The remaining hose to be fitted with a tube having a similar orifice at the end and a vacuum gauge connected with the tube 9 inches back on the orifice, or a sphere approximately 4 inches in diameter, having similar orifice in the side and a vacuum gauge on the end of same. Under the above conditions the vacuum gauge must show at least 2 inches of mercury. With similar orifices, ⅝ inch in diameter in place, the vacuum gauge must show at least 3 inches of mercury.

During the above test the power required to operate the vacuum producer will be measured and must not exceed the amount hereinbefore specified. The orifices will then be closed, one at a time, and the amount of power required to

operate the vacuum producer with the various number of orifices open will be noted in order to ascertain if the power required falls off in proportion with the sweepers in operation.

In the event that the vacuum producer requires the use of water, the amount of water used will be carefully measured, and should this amount of water exceed that guaranteed by the bidder the cost of such additional water, if the vacuum producer be operated 2 hours each day, 120 days per year, for ten years, will be deducted from the contract price.

MAKING THE JOB OF RURAL TEACHING MORE ATTRACTIVE.

(*Concluded from Page 37*)

tion has been that of expense and this has been met satisfactorily by a plan for a pretty little cottage that has been worked out by a certain lumber company and submitted to the school authorities. The plan calls for an expenditure of but $1,100. It seems to be excellently suited to the purpose and has been followed in nearly every instance. The cottage is 20 by 24 feet and has a living room, bed room, kitchen, closet and screened porch. The advantage of a standard plan has been demonstrated. Directors of a district having the teacherage proposition under consideration can visit a district provided with a teacherage and inspect it. If it meets with their approval they may then accept the plan and be saved the time and trouble of working out one of their own, with the chance of not achieving a satisfactory result.

Most of the Weld county teacherages are in connection with two-roomed schools and both teachers occupy them. A teacherage for a one-roomed school is practicable where a teacher is employed who can have a relative or some one else live with her. There are cases, Superintendent Copeland believes, where a teacher's cottage could be so located as to serve two schools and this will be tried out probably in the near future. All of the cottages at present are located on the school grounds. One has been built as an addition to the school and has electric lights and a telephone. The teacher's contract in this case gives her the use of school coal.

Superintendent Copeland says he favors building teacherages of an inexpensive type like those that have been built in Weld county in preference to the more expensive kind even though the taxpayers of a district might be willing to erect better quarters. If changes in school conditions occur which make it desirable to move or sell the teacherage, if it is of the inexpensive type it can be done readily.

GETTING RID OF SARAH McBRIDE.

(*Concluded from Page 46*)

Gryce was speechless. Room Three had been his greatest concern for two years; it had been the single weak spot in the school. He had gone on his vacation secure in thought that he had a new and capable teacher. He was non-plussed, but he was not ready for the surprise that was yet to come.

"I suppose," he said, "we will have to get another teacher at once to take Miss Randall's place."

"Well, hardly," drawled Carr. "You see it was so near the opening day that we didn't know where to look for a teacher. Then, you know too, Hi Bennett is still on the board and he worked the other four, and so they elected Sarah, and she will go on with her teaching for the coming year."

"What!" stammered Gryce. "You elected that bloomin' old maid to come back here and to—to" Gryce stopped for lack of words.

"Cheer up!" laughed Carr. "It may not be so bad as it looks."

"Of all the bloomin' idiots," stuttered Gryce. "I'll resign at once."

"Woap! Steady! Don't do anything rash," soothed Carr. "Go home and sleep on it. I'll see you in the morning."

Carr turned back into his store and left the superintendent standing alone on the sidewalk wiping his brow. Thru Gryce's mind kept running a remark made to him by an old book agent: "I don't consider a schoolbook sold until it is actually in the classroom and is paid for."

SHOULD SCHOOL EXPENDITURES BE LIMITED?

(*Concluded from Page 25*)

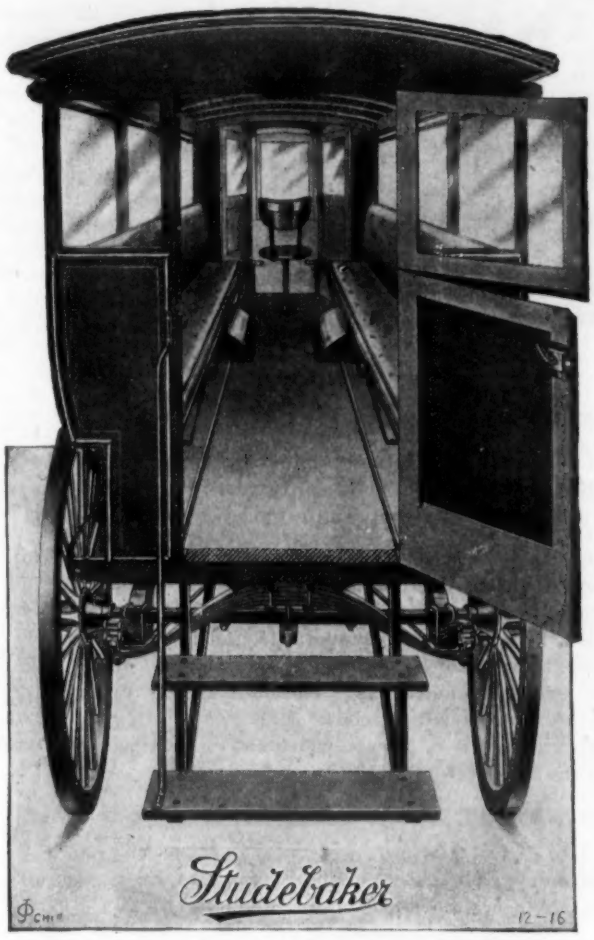
2. That public business should be so conducted that anyone who can get the votes could perform the functions of any office.

3. That uniformity, which takes no account of local or individual differences, is just.

4. That standardization means uniformity. (It is really the only logical way to get away from uniformity.)

5. That every citizen should understand and approve of all of the machinery of every department of government rather than merely judge it by its results.

If the readers of the *School Board Journal* will make a united and consistent effort to dispel these five misconceptions, it will not be long until we hear less about either the inefficiency of democracy or the undemocratic demands of efficiency, and our ideal tax limit law will not be so far from realization. Then there will be guaranteed to the schools all the money they need for every worthy purpose, but not one cent more.



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Catalog No. 1114 shows large illustrations and gives detailed views of construction. It will be sent on request. If you want our representative to meet with your Board—tell us when.

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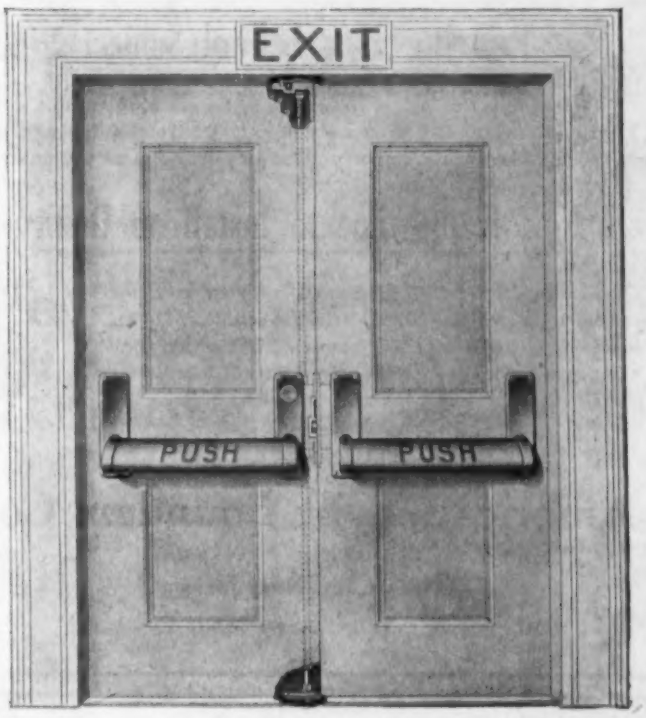
Safety provided in every point

Quick exit is assured and the construction is such that in operating the push bar the hands or arms cannot be caught between the bar and the door.



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are attractive in appearance, strong in construction and quick in action.

They have a wide push bar which projects only 2½ inches from the surface of the door, permitting the door to swing wide open so as not to obstruct passage through the doorway. Slight pressure on the bar at any point will release the bolts instantly. All edges and corners on the bars and brackets are carefully rounded, eliminating all possibility of wearing apparel becoming accidentally caught.

Sargent Fire Exit Door Bolts, Locks and Hardware are sold by representative dealers in all cities.

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New York Boston Chicago

JOLIET TOWNSHIP HIGH SCHOOL'S ADVISORY COMMITTEE PLAN.

(*Concluded from Page 26*)

visors during the entire four years, being promoted each year as the class is promoted. For this service each member of a committee receives an extra hundred dollars salary but all agree that, in point of time spent, and energy used, this is the hardest earned money of the year. To be chosen as a member of an advisory committee, however, is considered an honor, and, were there no hundred dollars attached to the service, every teacher would still be ambitious to become a member of this advisory committee system which, because of its evolutionary character, seems destined to remain as a permanent part of the Joliet Township High School organization.

THE JUNIOR RED CROSS IN DUBUQUE, IOWA.

(*Concluded from Page 30*)

tendance. The decorations and setting for the exhibit were taken care of by the general committee assisted by teachers from each school, and when all was ready the room presented a most attractive appearance, as will be seen from the accompanying cuts.

The following table presents a list of the number of the articles made by each school, together with the totals:

A layette consists of the following articles, and the average cost of a complete layette was $8.37.

2 dresses.
6 flannel binders.
2 pairs bootees.
3 flannel shirts.
1 cape with hood.
1 flannel jacket.
3 muslin brassieres.
3 cotton flannel brassieres.
1 bonnet.
2 swaddling blankets.
12 diapers.
1 sundry bag, which contains: 1 bar soap, 1 can talcum powder, needles, thread, thimbles, safety pins, wash cloth, roll of old linen.

Articles made by High School—
25 blue serge dresses.
25 black sateen aprons.
25 gingham aprons.
25 outing flannel petticoats.
25 night dresses.
25 chemise.
25 pair drawers.
50 linen towels.

A comfort bag includes the following:

2 khaki handkerchiefs.
1 wash cloth.
1 can tobacco.
1 package cigarette papers.
1 pipe.
1 tobacco pouch.
1 bar toilet soap.
1 soap case.
1 stick shaving soap.
1 can foot powder.
1 trench mirror.
1 can talcum powder.
1 tube tooth paste.
1 comb and case.
1 tooth brush and case.
1 pencil.
1 tablet.
1 package envelopes.
1 pair gaiter laces.
1 card khaki thread.
1 card khaki buttons.
Needles.
Safety pins.
Chocolate.
Gum.
1 drinking cup.
1 game.
Corn plasters.
Shaving paper.

The average cost of each comfort bag filled was $2.37.

In Table II we furnish a financial statement of our Junior Red Cross receipts and expenditures per school. As will be seen we expended $983.28, having collected $1,040.94. We have an unexpended balance of $57.66.

Table II—Financial Statement, Junior Red Cross.

School	Receipts and Collections	Expenditures	Balance
Franklin	$ 64.79	$ 60.29	$ 4.50
Prescott	136.00	128.47	7.53
Lincoln	313.70	313.70	.....
Audubon	129.50	123.09	6.41
Fulton	100.00	76.94	23.06
Irving	105.70	100.82	4.88
Marshall	45.00	33.72	11.28
Totals	894.69	837.03	57.66
High School	146.25	146.25	.....
Grand Total	1040.94	983.28	57.66

It is the practically unanimous feeling of all of us who were connected with the Junior Red Cross activities in the Dubuque schools, that we never engaged in an enterprise which so thoroly commanded the interest and co-operation of the entire school system as did this. As an example of social activity and social development the Junior Red Cross organization is unexcelled. It furnishes a medium for the unfolding of the social ideal and the social attitude of mind, which it would be difficult to duplicate. It exemplifies all the characteristics of an ideal social problem—a common purpose, an unselfish end, an opportunity for service, and co-operation.

Dubuque is proud of its record in Junior Red Cross service and feels that if every school system in the country contributed garments and articles in like quantity according to its enrollment, the needy children of Belgium and France would be well cared for, and the soldiers of America in foreign lands would have many comforts and conveniences that would otherwise be lacking.

There is a strong sentiment in West Virginia for required medical inspection of all school children, in the opinion of J. H. Thornton, assistant to the state superintendent of schools, who has just completed a survey of the state thru answers received to a questionnaire sent to superintendents and principals of schools. A total of 124 replies were received from 48 different counties in the state. Of the 124 schools, 40 reported that they had medical inspection and 20 thought it should be made compulsory.

It was also brought out that nine teacher-nurses are employed and that others will probably be employed next year. These teacher-nurses investigate the sanitary conditions of pupils and homes in the schools where they are employed.

ECONOMICAL SMALL SCHOOL BUILDINGS.

(*Concluded from Page 42*)

The partition between two of the rooms on the first floor was omitted to provide a temporary assembly hall until the area is required for classroom use.

To make the building practically free from fire hazards, the boiler room was located outside the main structure and the main fireproof stair towers leading from the ground to the second floor were arranged without connections with the basement. Access to the basement is gained thru two independent fireproof stairs at a point in the first floor corridor as far distant from the fireproof towers as possible.

All outside walls and inside partitions are of masonry to which the inside plastering has been applied without furring or lathing. The dadoes of the classrooms and corridors are not plastered but are laid up with finished brick work.

The floors are of mill construction and have been treated for safety against fire. The under side is plastered with hard plaster on wire lathing. The finish flooring is of karbolith, an asbestos compound which is fireproof and which is applied in a plastic state. There is in the building, with the exception of the windows and doors and the ordinary wood trim, nothing which can readily catch fire or burn.

The building is of extremely low cubical contents. It contains 544 cubic feet per pupil and represents a cubic foot cost of 18.8 cents, or $102.87 per pupil. It was erected in 1913 at a total expenditure of $33,743.

The building illustrates the lack of relation of cube to cost per child. While the building cost 18.8 cents per cubic foot, the very economical cubic content per pupil represents an expenditure of only $102.87 per child.

The Oliver School.

The Oliver School at Lawrence, was built in 1918. It contains 36 classrooms, of which twelve are used by primary classes and 24 by grammar grades. It contains also the quarters of the superintendent and the administrative offices of the Lawrence city school department. Four manual training rooms, domestic science rooms, a number of accessory rooms, and a hall seating 600 persons have been provided.

The arrangement of the plan is such that every room in which classes assemble, including the hall, and every teacher's room and administrative offices receives the direct rays of the sun at some time in the day. The fenestration was carefully studied and such special construction of brick piers and window frames was adopted as would give a glass area equal in every case to 20 per cent of the floor area of the classrooms, with light on but one side of the room.

The underpinning from the ground to the water table is split face granite laid in courses, while the facades of the building above the water table are common red bricks laid to rather wide joints. The trimmings are of Indiana limestone.

The construction thruout is that known as the Boston standard fireproof construction, i. e., all partitions are of masonry, all floors of re-enforced concrete and all stairs are of iron. No wood construction is employed below the roof.

All walls and partitions after being waterproofed were plastered directly onto the brick work and all room and corridor dadoes were covered with burlap. The inside finish and doors thruout are of chestnut. All toilet room floors are laid with terrazzo and all other basement floors, with the exception of the manual training and domestic science rooms are of concrete. The manual training and domestic science room floors are of maple.

An exhaustive study was made thruout the designing of this building of means and expedients to provide a low cost record per pupil for buildings of this type.

The cube was studied and restudied and reduced each time until the minimum of efficient space was thought to have been reached. Classroom areas were reduced to the minimum ample for the seatings; corridors were reduced to the minimum which seemed advisable with rooms opening on but one side; heat and vent ducts were reduced to deliver and exhaust the required amount of air at a velocity not greater than that allowed by the state requirements; walls and partitions were carefully designed for the loads they were to carry and the thinnest wall adequate for its purpose and load was adopted in every case; foundations and footings were carefully proportioned to the work required of them, and every legitimate safe economy was practiced to eliminate useless cube. In this way not only was cube reduced by carefully designing walls and proportioning foundations, but a considerable saving in bulk of brick and concrete was accomplished.

The total cube of the building (omitting 69,000 cubic feet, the cube of the school department administration offices which cannot be rightly charged to accommodation of pupils) is 980,600 cubic feet or 681 cubic feet to each of the 1,440 pupils accommodated in the 36 classrooms.

The building was erected at a total cost of $209,707, fully complete in every detail; not a dollar's worth of extra work was encountered during its construction. The building cost 19.9 cents per cubic foot, or $136 per child. This amount is believed to be by far the lowest pupil cost established in Massachusetts for a school of similar accommodations and type of construction.

The record might have been reduced by approximately $9 per pupil, and the appearance or durability of the building not impaired, had the city council not insisted on granite under-pinning and limestone trim. The concrete base course and brick under-pinning might have saved $10,000, and terra cotta might have been used at a further possible saving of $3,000.

STANDARDIZATION OF SCHOOLS.

(*Concluded from Page 32*)

ful, the equipment more useful, the instruction more practical, and the association together more enjoyable and beneficial.

3. *Watch for every opportunity to do larger things.* As teacher, you must be the leader in the community. If there is opportunity for a school of two rooms instead of one, for transportation, or for consolidation, the teacher should know it before anyone else and should be the one to pave the way for the sentiment without which these good things will never come your way. Know your district and know your people.

QUESTIONS AND ANSWERS

This Department is conducted as a personal service for the readers of the Journal. Questions on school board problems, especially on the physical side of school administration, will be answered as promptly as possible by the department editors.

Only such questions will be printed as seem to be of general interest. Address correspondence to Editor, School Board Journal, Milwaukee, Wis.

Air Testing Devices.

4. Q:—I am looking for instruments which can be purchased at a reasonable cost and can be easily taken into schoolrooms to measure light and atmospheric humidity. Can you tell me where these may be purchased?—*R. A. K.*

A:—Air testing devices may be purchased as follows:

Temperature—Thermometers and thermographs may be purchased from the Taylor Instrument Companies, Rochester, N. Y.

Humidity—Sling psychrometers from Taylor Instrument Co., Rochester, N. Y.

Carbon-Dioxide Determinations — Petterson-Palmquist Apparatus, made by Eimer & Amend, New York, N. Y.

Dust and Bacteria Counts—Wallace and Tiernan Air Sampler, made by Wallace & Tiernan, 136 Liberty St., New York, N. Y.; dust connecting cells, made by Sedgwick & Rafter, New York.

There is no completely satisfactory light testing instrument of American manufacture on the market.

A good device of English manufacture is the "Lumeter" made by R. and J. Beck, Ltd., London. Messrs. Eimer & Amend, New York, N. Y., will import it for you.

The best American device is the photometer, made by Foote, Pierson & Co., 160 Duane St., New York, N. Y.

A Home-Built Workshop.

13. Q:—The school board here is considering the matter of building a manual-training plant. Our present needs would be:

1 room for 24 benches—grade work.

1 room for 12 benches, 6 lathes and space for cabinet work.

1 room for woodworking machinery.

1 room for lectures and demonstrations.

1 gluing and finishing room.

1 storeroom.

You might have plans on file which you would be willing to loan us until we could have drawings made from them; the board would be willing to pay for such.—*F. W. B.*

A:—Many folks have most curious ideas as to the ownership of a set of plans. An architect is not engaged to draw plans, any more than a doctor is engaged to write a prescription; the plans and the prescription are merely the incidental means toward an end, such as the erection of the building or the curing of the patient. And the plans, therefore, are fully and legally the personal property of the architect, even after his commission is paid; no one whatever may loan, copy or use them without his express permission. An architect is precisely like an author—whose story cannot legally be reprinted or copied, even by the magazine that has bought and published it, unless the author agrees. Yet many folk who would be horrified at the bare idea of stealing a ride on a railroad train will calmly "borrow" the product of an architect's brains, behind his back! Therefore, we cannot—and will not—loan any plans; if your board wishes a permanent building, you should by all means commission an architect for this.

But why not put up a temporary structure, that will serve your needs for some years? Your carpentry class, under your direction, can do the work; it will be far better training for them than making bookcases and bed-tables! The 24-bench room had better be 24 feet wide, outside dimension; the inside length should be 40 feet, with a 4-foot alcove to hold instructor's bench and jacketed stove. The second room—to hold 12 benches and 6 lathes, with a little extra work-space, can be the same size as the first. An average bench is 4 feet 4 inches long, and 2 feet wide; 2 feet of passageways at either end separate it from the adjoining benches. In front, there must be from 2 to 3 feet of clear working space; 2½ feet is probably enough, especially for grade work, tho 3 feet is better. This assumes that the benches are single; if double, a working space of at least 3½ feet is needed, and the bench-tops are 3 feet wide.) Lathes vary greatly in length; but on an average, they will require just about as much total floor-space as a bench, including passageways, etc. The size of the other four rooms—woodworking machinery, lectures, finishing, and storage—depends so entirely on circumstances, that I can only make a clever guess; 24 feet square, outside, will do for a starter. I have assembled these rooms into an H-shaped plan (Fig. 1), because that gives better light and ventilation than a compact scheme; in a temporary building of this character, there is very little difference in cost between the spread-out and the solid arrangement. Fig. 2 shows the front elevation; utterly plain and simple, yet not unattractive.

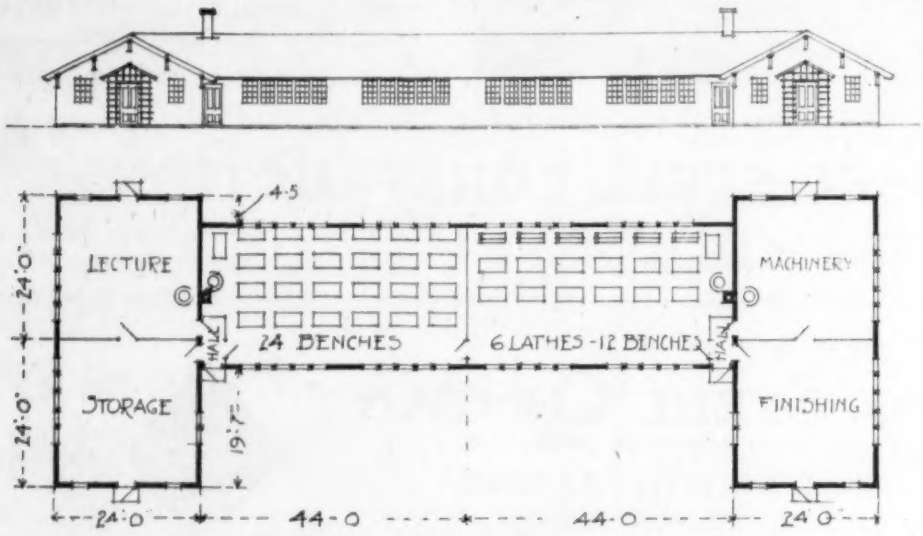


Fig. 1. (Below) Plan of Temporary Building for Manual Training; scale 1-32 inch to 1 foot.
Fig. 2. (Above) Front of Building; scale 1-32 inch to 1 foot.

Figure 3 is a section thru the building; 2x4 sills are laid down; 2x4 studs, 8 feet long are set on these, carrying plates of doubled 2x4. The windows are 12-light 8x10, plain rail, grouped, with double studs between. The rafters are 2x4, 16 feet long, set 3 feet on centers, and trussed with light stuff, as shown. Lumber and other material can be stored on the tie-beams—out of the way, but very handy. The roof should be sheathed, and covered with shingles or patent roofing; it has a pitch of 1 in 2. The floor had best be concrete; very slight foundations will answer, provided they are cast in one piece with the floor-slab, and reinforced with wire lath. The walls should be weatherboarded, without sheathing; interior partitions can be one thickness of beaded stuff. No inside ceiling or finish is necessary; everything is left rough, and whitewashed. This makes it fireproof, or at least slow-burning; for whitewash, if kept in good shape, is one of the best fire-resisting coatings known.

The ends of the wings may be finished off with some little care; figures 4 and 5 show the detail. The latticework is built from 1x2 strips; the hood has rafters of 2x4, carried by simple brackets of 2x2. The barge-boards are 2x8, resting on brackets of 2x4.

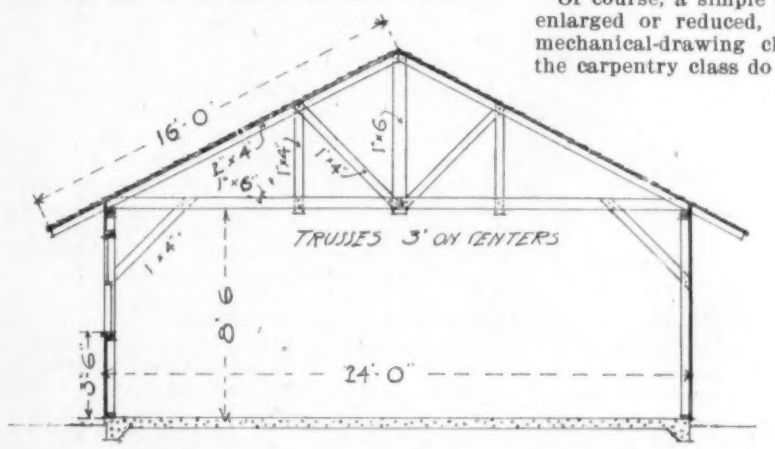
A very good color-scheme is:—green or gray roof, cream-white body, and olive-green trimmings (doors, brackets, barges, lattice, etc.).

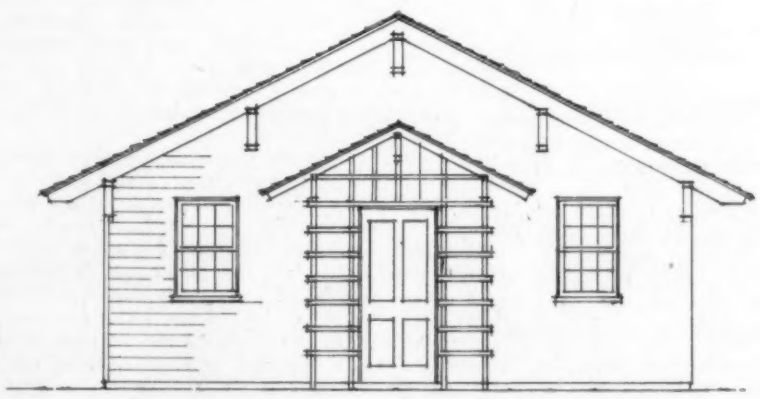
The roof has sufficient overhang to shoot the rainwater well clear, without the need of gutters; but possibly a short section of hanging gutter had better be put over each hall door, else anyone coming in or out will be drenched by the streams from the valleys.

Jacketed stoves, placed as indicated, will give sufficient heat; workrooms don't need to be nearly as warm as classrooms.

Of course, a simple scheme of this sort can be enlarged or reduced, to fit your needs; let the mechanical-drawing class make the plans, and the carpentry class do the work.

William Draper Brinckloe.





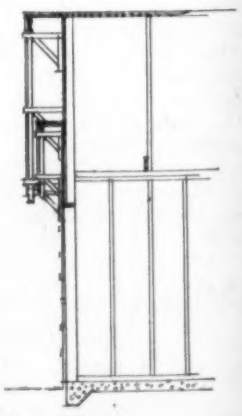


Fig. 3. (Above) Cross Section thru any part of Building; either center or wings; scale 18-inch to 1 foot.
Fig. 4. (Left) Detail of end of wing; scale 1-8 inch to 1 foot.
Fig. 5. (Right) Section thru end of wing; scale 1-8 inch to 1 foot.

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NORTHWEST SCHOOLS EQUIPPED

WITH

STANDARD ELECTRIC TIME SYSTEMS

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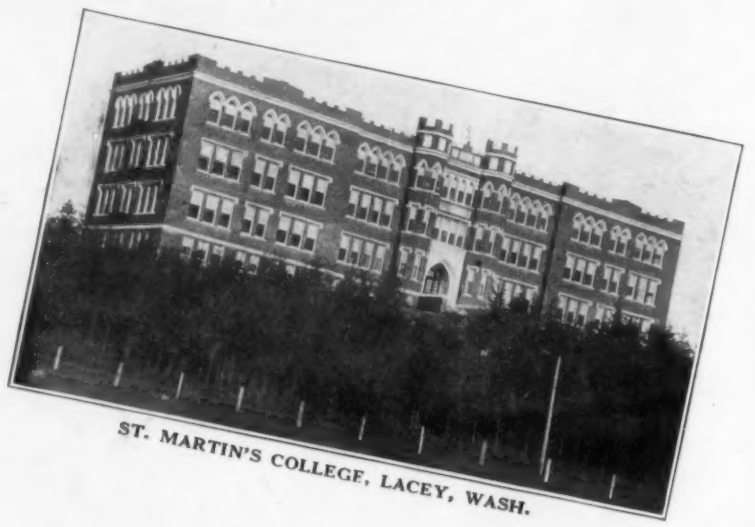

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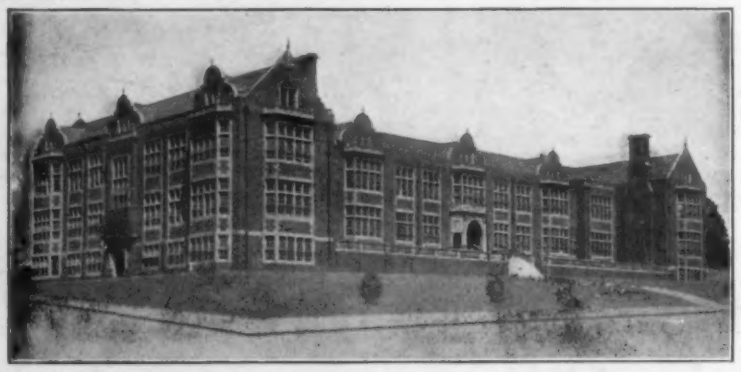

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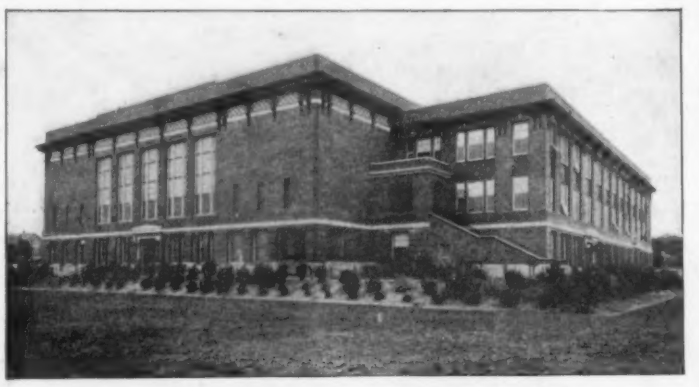

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